FEEDSTUFFS

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

Volume 28—Number 43 | OCTOBER 27, 1956 | 1 Year $4, 2 Years $7

General Mills to Build Feed Mill In Fort Worth

MINNEAPOLIS — General Mills, Inc., will build a modern, "push-button" feed mill in Fort Worth, Texas, C. H. Bell, president, announced this week.

The new plant will front on Terminal Road near Dean Road in Fort Worth and will occupy a 10-acre site recently purchased from the Fort Worth and Denver Railroad. Construction will begin immediately and will be completed in about 12 months.

D. H. McVey, general manager of the company's feed division, said the plant will manufacture a complete line of Larro Sure Feeds for livestock and poultry and will have a capacity of 50,000 tons per year (on a 16-hour day basis). It will employ 50 persons in plant and office.

Electronically controlled, the plant will turn out feeds in mash, pellet, crumbled or cubed form. It will provide its products for delivery in bulk or in 50 and 100-lb. bags. It will be of the newest, modern design, Mr. McVey said, and will be equipped for pneumatic unloading and for the palletized handling of sacked feeds.

The plant will consist of three main buildings: a mill, warehouse and office. The mill, constructed of reinforced, slip-form concrete, will be 60 ft. wide by 50 ft. deep and will be 119 ft. high. The warehouse, 84 ft. by 300 ft., will provide bulk storage for 1,800 tons and sack storage for 2,000 tons of feed; it will be of metal-clad, steel frame construction with a concrete floor. The office will be a single story, concrete building 75 ft. long by 37 ft. wide.

(Continued on page 97)

No Evidence of Over-charging For Feed Found

WASHINGTON—U.S. Department of Agriculture field men have not found any evidence that the feed industry has taken advantage of drouth area farmers and ranchers in Texas.

There had been complaints from Texas that feed dealers had violated provisions of the drouth feed program and that there had been overcharging by dealers for emergency feed formulas. However, it was learned from sources here, on-the-spot reports revealed, that complainants had never been approved as eligible for the drouth relief program. And consequently the field judges of USDA were unable to pin down any evidence that the feed industry was taking advantage of drouth area farmers and ranchers.

One USDA official told Feedstuffs this week that it was strange that most of the complaints of this nature came from Texas, but at the same time this official, after a wide examination of feed dealer margins, said that the Texas dealers had been working on the lowest margin of any state in the drouth areas.

GFDNA Conducting Bu. vs. Cwt. Survey

ST. LOUIS—The Grain & Feed Dealers National Assn. is conducting a survey of its membership to find out the extent of the changes which would have to be made if it is decided to adopt the hundredweight measure instead of the bushel.

The survey covers changes which would be necessary in buying, storing and selling grain, in recording operations, and in the equipment now used for making records. The members have also been asked to say how much time they would need to prepare for the change and whether any specific time of the year should be chosen for the changeover.

Relatively Stable Oilseed Meal Prices Indicated

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — A survey of trade and official opinion of future price levels of vegetable oils and meals indicates a relative stability of prices of those commodities within recent commodity market quotations.

The entire situation has been one of confusion. In considering exports of edible fats and oils, it has been recognized that government programs could finance the export of virtually all the edible fats produced in this country.

This condition considers a possible crush of soybeans up to a quantity of between 320 and 335 million bushels during the current 1956-57 year.

These two factors of prospective oil exports and big soybean crush have led some persons in the trade to expect oil prices to break through the roof and soybean oil meal prices to slump disastrously.

After reviewing informed trade ideas with top U.S. Department of Agriculture specialists, it appears to this reporter that edible oil prices may bulge somewhat above their present levels but that meal prices will not fall as radically as some persons have anticipated.

Meal Prices

USDA officials say that soybean meal will hold at levels not less than $40 ton, Decatur, this winter and that it is more probable that prices will stay close to recent market levels, notwithstanding what price oil may reach.

There is no disagreement between

(Continued on page 8)

16% Increase in Heavy Type Turkey Breeder Hens Planned

WASHINGTON—Heavy breed turkey breeder hens in 15 of the most important states in early 1957 are now expected to number 16% more than at the beginning of the 1956 hatching season, according to a report from the U.S. Department of Agriculture.

Turkey breeder hen owners plan to hold at the beginning of the 1957 hatching season 20% more heavy white breeder hens and 15% more bronze and other heavy hens than at the beginning of the 1956 season. They expect to decrease their holdings of light type hens by 3%.

This report on turkey breeder hen intentions for the 1957 hatching season is based on a survey made as of Oct. 1 at the request of the turkey industry to obtain an early indication of prospective holdings of turkey breeder hens for supplying hatching eggs for the 1957 season. The purpose of the report is to assist flock owners in making desirable changes in their plans to hold breeder hens.

The states covered in the survey had more than 79% of the breeder hens in the U.S. on Jan. 1, 1956.

Returns in the survey were received from hatcheries and other flock owners having more than 64% of the breeder hens in the 15 states, or about 51% of the breeder hens in the U.S.

Growers indicated increases in

(Continued on page 93)

USDA Reports Record Corn Stocks, Smaller Oats Supply

WASHINGTON — Corn stocks of nearly 1.2 billion bushels are the largest Oct. 1 stocks of record, according to the Crop Reporting Board, U.S. Department of Agriculture.

Record stocks of corn and sorghum grain were more than offset by smaller stocks of oats and barley for a total of 61.2 million tons for the four feed grains, slightly smaller than the record 62.1 million tons of a year ago.

The figures include government-owned stocks as well as supplies on farm and in commercial warehouses.

Carryover of old corn in all storage positions on Oct. 1 is estimated at 1,166 million bushels, exceeding the previous record of a year ago by 13%. Oct. 1 stocks of oats in all positions are estimated at 1,057 million bushels, down 21% from a year ago and the smallest stocks in three years. The carryover of old sorghum grain in all positions on Oct. 1 is estimated at 80.1 million bushels, exceeding the previous record of a year ago by 5.1 million bushels.

FEEDSTUFFS *Features This Week*

DRUGS AS FEED ADDITIVES: Dr. H. L. Wilcke, in an article on page 72, points out some of the problems and responsibilities of feed men in the use of drugs as feed additives.

ON-THE-FARM MERCHANDISING: The importance of outside selling programs, particularly in view of the changing animal agriculture, is emphasized by Robert Waite, Jr., in an article on page 18.

BROILER FEED EFFICIENCY: How far will broiler feed efficiency go? Dr. John W. West offers some answers on page 67.

EMPLOYEE RELATIONS: Starting in Feedstuffs this week is a new department, on improving employee relations. Feed mill managers and others will be interested in this feature by a labor relations expert, Ola C. Cool. The first in the series of articles appears on page 10.

FATS IN FEEDS: Characteristics and requirements of stabilized animal fats for feeds are described by Clark Rose on page 86.

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Cotton Producers Assn. to Build Mill in Alabama

ATLANTA—Construction of a second new feed plant has been announced by the Cotton Producers Assn., Atlanta. The mill will be located at Guntersville, Ala., on Guntersville Lake.

The announcement was made by C. W. Paris, director of the purchasing division, and J. Julian Baker, director of distribution, for the cooperative.

Plans for construction of the first mill, to be located at Flowery Branch, Ga., were announced previously. (Feedstuffs, Oct. 6.)

The modern new plant at Guntersville will be constructed of reinforced concrete and will be completely fireproof, the announcement said. The building will be constructed by using the slip-form method. The actual mill

(Continued on page 97)

★ FEEDSTUFFS ★

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EDITORIAL STAFF—Harvey E. Yantis, Editor; George L. Gates, Managing Editor; Roger Bergland, Assistant Managing Editor; John Cipperly, Washington Correspondent; Emmet J. Hoffman, Merchandising Editor; Thomas E. Letch, Assistant Editor; Walter C. Smith, Research Director.

WASHINGTON CORRESPONDENT—John Cipperly, 604 Hibbs Building, Washington, D. C., Telephone, Republic 7-8534.

ADVERTISING STAFF—Wilfred E. Lingren, Advertising Director; Carl R. Vetter, Advertising Production Manager; Bruce A. Kirkpatrick, Assistant Advertising Production Manager.

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The controlled circulation of this issue is concentrated in the southwestern states

Let's Remember

All political promises and manipulations notwithstanding, the only years farm prices reached or topped 100% of parity since the 1910-1914 base was established were 1916-1919 and 1942-1952. These were war years, for the most part—so draw your own conclusions.

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Reprieve for the Middleman

ONE of the food processing industry's major challenges from a public relations standpoint is to get the American people to see "spread"—the difference between retail food prices and the prices of raw farm products—in its true economic role as a positive, value-adding, market-creating force. Price spread has been emotionally and socialistically forged into critical government determinations of what is bureaucratically described in vaguely deprecatory manner as "the farmer's share of the food dollar." With such provocative pie-cutting the middleman has been habitually linked as a malefactor responsible for making the farmer's share of the food dollar too small and his own too large.

The effects of such thinking and the immature economic philosophies resulting from it have been prejudicial not only to the maligned middleman but also to the farmer. Recognition of the damaging prejudice and its influence upon the relations of the food industries with the public was evidenced in a recent meeting of the American Farm Economic Assn. Among the speakers was Frank M. Atchley, agriculture consultant of Grocery Manufacturers of America, Inc.

"Without spread," Mr. Atchley said, "not only manufacturers and distributors—but farmers as well—would be out of business. Our bread would be wheat on a Kansas farm; our cheese and butter would be milk in a pail in Wisconsin; and our breakfast juice would be on the trees in a Florida or California orange grove. Without spread there would be no food business as we know it. The food business would consist of local farmers selling direct to local consumers."

The spread has come into being, Mr. Atchley stated, because there are valuable services to be performed between farm and table. As a result, "milk does not stay milk on a Wisconsin farm but is bottled for convenient and sanitary use—converted into cheese packaged, transported and sold all over the world."

★ ★ ★

SPREAD, he said, is a payment for a series of values aided by food processing, packaging, transporting and distributing. It provides employment directly for at least five million workers in the food and food transportation industries and indirectly to several million more in supplier industries. It helps build markets for farm products.

Commenting on the use of the term "middleman" in discussions of price spread, Mr. Atchley said: "The term middleman is as out of date as a span of mules on a modern cornbelt farm. Let's quit using the term. Let's bury the term middleman, once and for all. Today we have professional management in food businesses—fully conscious of the needs to serve well not only their stockholders, but the farmers who supply the raw products, their employees and their consumer and distributor customers. They have a teamwork concept and a long run point of view."

Pointing to the tremendous changes in the types of food consumed and in farming, manufacturing and distributing methods in recent years, Mr. Atchley described the government's traditional measure of "farmer's share" and "price spread" as "an outmoded, unrealistic and misleading statistic." He proposed that an impartial group of economists should review the existing government figures and should attempt to find a new and improved measure. The new measure should stress the values added by agriculture, processing and distribution, and should avoid the use of meaningless percentages.

One important part of any new measure should be an improved statistic on farm income. None of our available farm income statistics distinguish between the marginal and part-time farmer, and the real commercial farmer. The inefficient subsistence farmer can no more compete with the up-to-date mechanized commercial farmer than the old five-story wholesale warehouse, using out-dated systems and hand methods, can compete with a streamlined one-story mechanized warehouse. He is about like the old fashioned "Mom and Pop" retail grocery store trying to compete with the modern super market.

Mr. Atchley suggests that we try to develop a farm income series applicable to commercially operated farms; that it apply to food operations and that it be adjusted for changes in number of farm operators. This, he believes, would be a truer measure of how well farmers are making out from the production and sale of raw foodstuffs.

It is urgently to be desired that GMA and others similarly motived and inspired will continue to search for an effective, simple and smearless substitute for the present government measure of the farmer's share and the price spread between him and the consumer.

A FEEDSTUFFS FORMULA FEEDS: HOW'S BUSINESS? FEATURE

Formula feed business has not changed materially from recent levels, although seasonal demand factors and some strengthening in prices were expected to give the market a definite lift before too long. Most manufacturers agree that potential demand is good, with colder weather required to put feeders in a heavier buying mood. Millfeeds and linseed meal were stronger this week, but animal by-products declined further. Alfalfa meal was unchanged after a series of advances the past few weeks. The index of wholesale feedstuffs prices advanced .9 point to 79.1 and the feed grain index moved up 1.5 points to 74.9 in the week ending Oct. 24. (Ingredient details on pages 94-96.)

Northwest

Improvement in formula feed demand in the Northwest was slight this week, but most manufacturers considered it encouraging. Indications point to a rather important gain in volume within a short time.

This anticipation of better business was reflected in more spirited buying of ingredients than has been in evidence for some time. Prices of a number of items reached sufficiently attractive levels to encourage good-sized bookings, and as a result prices firmed up. A turn in the market, following an extended period of easiness, often is the spark that sets off increased buying by dealers and feeders. Dealer stocks are reported to be very low, and any substantial buying movement could result in important tonnage business.

Egg feed demand is still light, largely because weather has been mild. However, nippier temperatures now moving into the area are likely to put more birds into houses and on regular feeding programs.

Dairy feed demand has improved somewhat, along with beef feeds. Once farmers get the cattle out of the fields and into barns and feed lots a good volume is anticipated because numbers of cattle are up considerably.

Operations remained on one or two shifts at major plants.

Central States

Formula feed manufacturers report a virtual status quo for sales in the central states during the week ending Oct. 24. Business has continued at about a level pace for the last several weeks, it appears, and volume for the months of the last half of the year is close to the same months last year.

Business could be better, observers say, but there are several influences working against an important volume. One is the exceptionally warm and clear weather over most of the area. This permits farmers to work in the fields for long hours, harvesting corn and other fall crops. At the same time, feeding programs are being neglected. Hogs can forage in the corn fields, and pastures still are relatively good in this area. Feeders are allowing their stock to remain outside as long as possible.

Prices of many ingredients either are easy or show actual losses, and this tends to make prospective buyers of feed hold off for a possible more favorable buying time. Feed prices, with the exception of molasses feeds, were slightly lower this week.

Southwest

A moderate decline in buying interest was reported by most feed mill sales managers in the Southwest this week. Volume was not off seriously, and many plants ran at the same rate as in the previous week, but there was some tapering off in dock business, particularly, and running time was shaved in some instances as a result.

Feed sales show an erratic pattern these days, many mill men say. Business will be excellent for a day or two then drop off to nothing before staging another pickup.

Poultry feeds seem to have held up in the past week, with cattle feeds off somewhat but still better than two or three weeks ago. Drouth feed sales are heavy in the designated areas but are not much of a factor with mills from southern Kansas northward.

Price cards were advanced in most cases this week, with the increases ranging from 50¢ to $1 depending on the type of feed and the day of reckoning.

Mountain States

Smaller feedlots are beginning to fill up, bringing a new surge in feed demand. Mills generally seem to be busier than for some time past. No one seems to be stocking very far ahead, so sales are in spurts as inventory stocks run low. Coarse grain movement indicates a "buy-as-needed" pattern of buying because of market conditions.

Types of feeds being sold are changing as turkey feeding draws to a close and cattle feeding picks up. Numerous drouth counties have cut into the formula feed potential, and prospects of continued drouth hold farmers to a program of holding on rather than building up.

Although prospects for a feeding year look good at this time, all planning seems to be on a short-term basis.

Ohio Valley

Improving sales of formula feeds were reported this week in the Ohio Valley, as the harvesting of fall crops neared completion, and farmer-feeders were able to give more attention to the fattening of farm animals for early winter marketing. Most area

(Continued on page 98)

Great Lady

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TECHNICAL AGRICULTURAL PRODUCTS WITH CONTROLLED SPECIFICATIONS

Members Vote Change in Name At Michigan Feed Conference

By DON ROGERS
Feedstuffs Editorial Staff

EAST LANSING, MICH. — Members of the Michigan Feed & Grain Assn. voted to incorporate their organization at the annual conference Oct. 18-19 held in Kellogg Center in cooperation with the Michigan State University college of agriculture. The name was changed to the Michigan Feed & Grain Dealers Assn. Attendance totaled 275, slightly above average.

Nine new directors were elected, three each for one, two and three-year terms. Those for one-year terms are Robert B. McConkey, Durand (Mich.) Milling Co.; Burt Bader, Bader Milling Co., Mt. Pleasant; and Monte Kahlbaum, Kahlbaum Bros., Carleton. Two-year directors are: Lawrence Smith, Smith Brothers Co., Lake Odessa; John Krusoe, Valley City Milling Co., Portland; and James Bliss, Michigan Elevator Exchange, Lansing. Three-year directors are: Ray Bohnsack, Michigan Farm Bureau Services, Inc., Lansing; Paul Kaechele, Caledonia (Mich.) Farmers' Elevator Co.; and Edwin Baur, Little Brothers, Kalamazoo.

Officers Elected

The directors in turn elected Mr. Smith president for the ensuing year, succeeding Fred N. Rowe, Jr., Valley City Milling Co., who had served for two years. Mr. McConkey was chosen vice president, and Mr. Krusoe was reelected secretary-treasurer. Mr. Smith's election as president is unique, in that he was a graduate of the first Michigan State College short course in country elevator and feed store training.

Following a brief discussion of the pros and cons of changing the methods of trading in feed and grain from bushels to hundredweights, a show of hands vote was overwhelmingly in favor of the cwt. system. It was decided, however, to poll the entire membership by mail before putting the association on record one way or the other.

Dr. Robert Spitzer, executive vice president, Murphy Products Co., Burlington, Wis., and chairman of the nutrition council, American Feed Manufacturers Assn., delivered an inspiring address entitled "Opportunities Unlimited," showing by words and color slides the difference between free enterprise in America and dictator-controlled economies in iron curtain countries.

Dr. Spitzer came by airplane on

(Continued on page 97)

Wenger

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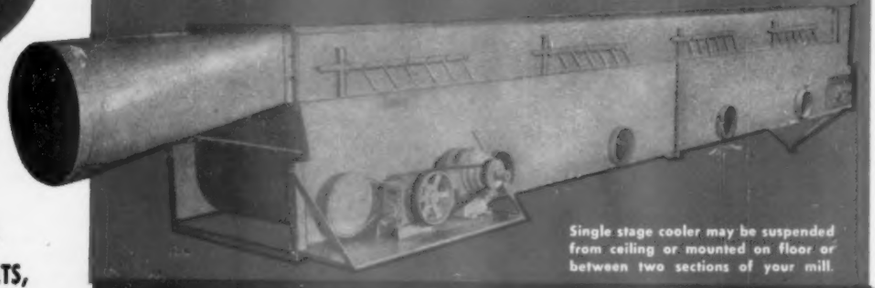

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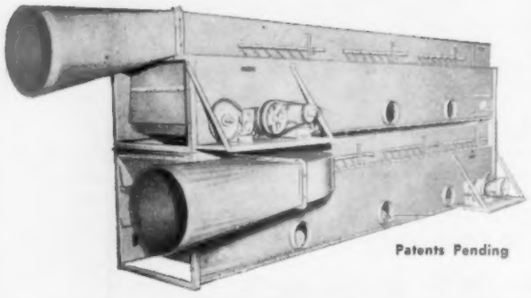

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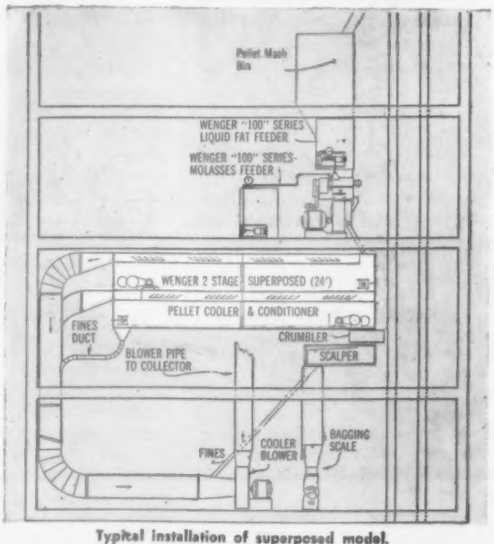

Typical installation of superposed model. Note minimum ducting.

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S.D., Ohio Areas Added to Drouth Feed Program

WASHINGTON—The feed industry in parts of South Dakota and Ohio, as well as other areas of the country, will be experiencing participation in the government's drouth feed program.

The U.S. Department of Agriculture has recently announced the designation of certain counties in those states as drouth disaster areas in which eligible stockmen may take part in USDA's feed grain program. Under this program stockmen may obtain feed grains or drouth emergency mixed feeds containing those grains, at a reduction in price of $1.50 per cwt. of grain.

On Oct. 19, USDA announced designation of Clay, Union and Yankton counties, and parts of Turner and Lincoln counties, South Dakota, as drouth feed areas. All five counties were already under designation for the soil bank acreage reserve grazing program, which permits stockmen to graze their soil bank acreage reserve.

On Oct. 23, USDA announced designation of eight Ohio counties as disaster areas where stockmen may participate in the feed grain program. These designations closely followed White House designation of Ohio as a disaster state. The eight counties are Ashtabula, Geauga, Lake, Mahoning, Portage, Stark, Trumbull and Wayne.

James Browning of USDA will meet with industry and state and county officials at 9:30 a.m., Oct. 29, at the YMCA at Canton, Ohio, to discuss the operation of the emergency feed program for the Ohio counties.

States and counties or parts of counties currently under drouth disaster designation include:

Feed Grain Program—515 counties or parts of counties in 11 states: Arizona, 14; Colorado, 22; Kansas, 84; Nebraska, 29; Nevada, 1; New Mexico, 31; Ohio, 8; South Dakota, 5; Oklahoma, 77; Texas, 233; Utah, 11.

Soil Bank Acreage Reserve Grazing Program—693 counties or parts of counties in 12 states: Colorado, 22; Iowa, 37; Kansas, 84; Missouri, 90; Montana, 10; Nebraska, 59; New Mexico, 31; North Dakota, 4; Oklahoma, 77 South Dakota, 35; Texas, 233; Utah, 11.

Hay and Roughage Program—458 counties or parts of counties in 6 states: Colorado, 22; Kansas, 84; New Mexico, 31; Oklahoma, 77; Texas, 233; Utah, 11.

Fire Destroys Section Of Indiana Feed Plant

CHICAGO—Fire, which did an estimated $10,000 worth of damage, struck part of the Farm Bureau Milling Co., Hammond, Ind., plant, the evening of Oct. 20, putting out of commission bucket elevators, electric motor drives, belt and screw conveyors and sifting machinery. The damage was centered in the building that houses the machinery used in manufacturing pelleted and crumbled types of feed.

The fire was discovered around 8:40 p.m. and lasted for two hours. Although the cause of the blaze was not definitely established, it was thought to be of an electrical nature.

Russell Paarlberg, general manager of Farm Bureau, in telling of the fire, gave much credit to plant employees and mill equipment suppliers for major efforts in getting the plant back into operation. He said the crumbling machinery was back in limited operation by the evening of Oct. 25, and 100 tons of pellets were made at that time. The Hales & Hunter Co., Chicago, and Arcady Farms Milling Co., feed manufacturers, helped supply Farm Bureau's customers during the emergency.

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Dawe's Choline Chloride 70%: An aqueous solution . . . water clear and non-corrosive . . . for those who prefer this concentration of choline chloride and are equipped to supplement their formulas with liquids.

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New Cattle Feeding Studies Reported at Iowa Event

AMES, IOWA — Several developments in cattle feeding research came out in reports at the annual Cattle Feeders Day Oct. 17 at Iowa State College. Some of the findings, the scientists indicated, may point to some changes in cattle supp'ements.

The "Iowa Economy Supplement" came through—in three completed experiments involving a total of 152 steers and in a progress report on a fourth experiment — as consistently lower in cost per steer and cost per pound of gain than any other supplement with which it has been compared, Iowa researchers reported.

This supplement contains dehydrated corn cob meal, molasses, urea, minerals and stilbestrol.

Average Daily Gain 3 Lb.

It has performed as well in the feed lot as any supplement with which it has been compared, and has performed better than some, the scientists said. In the latest completed experiment, it produced average daily gains of 3.07 lb. per yearling steer on a full feed of corn. It costs less than 3¢ a day per steer.

A few feed manufacturers began making the supplement after the first experiment was reported last year. Small supplies, it is said, have been available in Nebraska, Iowa, and Minnesota, and possibly other places.

This supplement is not one which most farmers can expect to have custom-mixed, said the Iowa scientists. They said it will be ready-made. They look for the feed industry to take it up gradually as farmer demand grows.

Dr. Wise Burroughs, in charge of cattle nutrition studies at Iowa State, said each of the ingredients in the supplement was selected to do a special job in supplementing a heavy corn fattening ration for top performance at lowest cost.

Ingredients

A ton of the supplement contains: 200 lb. of urea, to furnish essentially all of the 28% protein equivalent; 20 lb. of "Stilbosol," stilbestrol premix, so that 1 lb. of supplement supplies 10 mg. of stilbestrol; 400 lb. of blackstrap molasses, to supply unidentified factors for good rumen function; 110 lb. dicalcium phosphate, 75 lb. of feeding limestone, 40 lb. salt, 5 lb. of trace mineral premix, to supply needed minerals; 1,150 lb. dehydrated ground corn cobs, to absorb the molasses efficiently and to properly disperse active ingredients such as stilbestrol and trace minerals needed in small amounts.

Dr. Burroughs said feed men handling the supplement should bear in mind that it is designed for fattening steers on a full feed of corn. Also, he said, it has been used in college experiments on animals at least a year old; younger animals might need more protein. Therefore, it was indicated, this is not a "general" cattle supplement, but it is one that will be used in the kind of cattle feeding widely practiced in the Corn Belt.

Cost relationships were also said to be important. If soybean, linseed or cottonseed meal became very cheap, the advantage of using the economy supplement would decrease, the scientists said. But as long as price relationships remained about the same as they were during Dr. Burroughs' experiments—1955-56—there would be an advantage in feeding the economy supplement for fattening yearling steers.

Here are the costs assigned for making a ton of this supplement in the college experiments:

	Lb. per ton	Cost
Dehydrated corn cob meal ...	1,150	$11.50
Molasses, blackstrap	400	8.00
Urea	200	11.00
Dicalcium phosphate	110	4.12
Feeding limestone	75	0.41
Salt	40	0.61
Stilbestrol premix	20	8.40
Trace mineral premix	5	0.35
Mixing and bagging	--	12.61
	2,000	$57.00

Recent Experiment

In an experiment reported at the Cattle Feeders Day, the economy supplement was compared with linseed meal, modified economy supplement, linseed meal plus stilbestrol and Iowa 4 Supplement, a mixed supplement used in many Iowa studies in the past. All supplements were fed at a rate of 1 lb. per steer daily to animals receiving a full feed of ground ear corn and 3 lb. of mixed hay daily. Ten milligrams of stilbestrol were present in each pound of supplement except for the lot getting linseed meal alone. The cattle were good to choice Hereford yearlings weighing just over 600 lb. initially. The test period was 168 days.

The economy supplement performed as well as, or better than, any other supplement tested. Liveweight gain averaged more than 3 lb. per day. Feed cost per pound of gain was 15.1¢, considered very good for cattle grading choice and dressing just under 60% at slaughter. The cattle returned nearly $25 per head over feed costs, essentially as good as or better than returns on any of the lots. The modified economy supp'ement, which contained soybean meal and torula yeast in place of part of the urea and ground corn cobs, was reported to have performed well but not as well as the economy supplement. Linseed meal without stilbestrol performed reasonably well but poorer than any of the supplements containing stilbestrol. Adding stilbestrol to linseed meal in this experiment transformed it into a top-performing supplement in this high-grain fattening ration. The Iowa 4 Supplement failed to out-perform the lower cost economy supplement, with gains slightly less.

AT IOWA EVENT—Bushel baskets of Iowa Economy Supplement were the center of attraction of crowds of visitors at the Iowa State College beef nutrition farm during the recent Iowa Cattle Feeders Day. In the above picture, Dr. Edmund C. Cheng (standing under the placard), livestock nutrition researcher, answers questions of cattle and industry men examining the supplement.

Conclusions

On the basis of this and previous experiments, Dr. Burroughs said Iowa Economy Supplement will perform as well as, or better than, any other supplement when it is fed properly to yearling cattle receiving a heavy feed or corn and a limited quantity of medium to good quality hay.

He said it appears that adoption in cattle feeding practice of the economy supplement or similar supplements can be "almost as helpful to the heavy corn feeder as the discovery of stilbestrol in lowering feed costs of beef production."

Dr. Burroughs said the supplement probably will require alteration where grain other than corn is fed and where the ration contains larger quantities of roughage.

Less Protein

Prof. C. C. Culbertson of Iowa State reported on work indicating that cattle need less protein when they receive stilbestrol. He told of an experiment with fattening calves comparing levels of stilbestrol and protein. Finished cattle from this experiment were shown to the Feeders Day crowd.

Prof. Culbertson said that the results suggest that 10.5% ration protein is enough for fattening calves when 10 milligrams of stilbestrol are fed daily. Also, with yearling cattle receiving 10 milligrams of stilbestrol in Iowa Economy Supplement, 9.5% ration protein gave as good results in these older cattle as higher protein levels in the fattening ration.

Here's how he said these protein levels can be achieved in most heavy corn rations containing 10 milligrams of stilbestrol:

For fattening calves, feed 1 lb. of supplement daily containing 35% protein.

For yearlings, feed 1 lb. of supplement daily containing 25% protein.

Where hay is largely or entirely replaced with corn silage in the fattening ration, somewhat more protein supp'ement may be needed for best results.

These conclusions were based on feed-lot results.

Carcass Results

Subsequent to the Feeders Day, it was found that carcasses of experimental cattle marketed after the event graded about one third grade higher than the buyers' committee estimated. Buyers had estimated that 78 experimental cattle would yield 48 choice carcasses, 29 good and one commercial carcass. Instead, government graders at a packing plant found 10 of the carcasses were prime, 55 choice and 13 good. They dressed out about 59%, which was about what the buyers had estimated.

The experiment, as noted above, compared feed lot gains of cattle fed medium and high levels of protein. Two levels of stilbestrol were fed. Prof. Culbertson said that while all the cattle graded higher than buyers expected, there appeared to be a tendency for the cattle without any stilbestrol to grade higher than the buyers' estimates by a wider margin than the stilbestrol-fed cattle.

The control cattle produced carcasses averaging high choice. The stilbestrol-fed cattle produced carcasses averaging medium choice. The buyers had estimated the control cattle a little below the stilbestrol-fed cattle, whereas they actually graded a little above those fed stilbestrol.

There was also a tendency, Prof. Culbertson said, for the cattle receiving higher protein level to yield and grade a little higher than those receiving the medium level. He said this difference may or may not be significant.

One of the research developments reported at the Feeders Day, it was indicated, points to a possible change in feed formulation, but further study

(Continued on page 98)

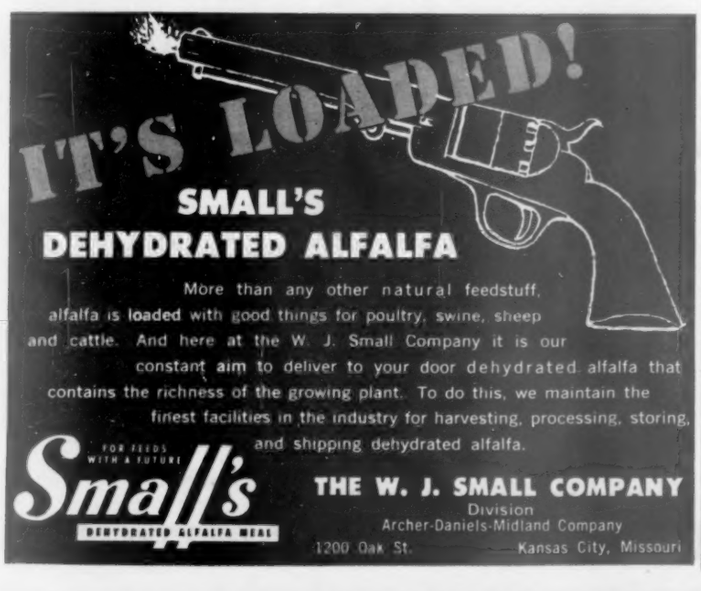
Idaho Short Course Set for Oct. 30-Nov. 2

MOSCOW, IDAHO—Ways to increase profits in livestock and dairy operations will keynote the second annual livestock-dairy short course at the University of Idaho, Oct. 30-Nov. 2, according to Dr. J. W. Bailey, acting head of veterinary science and short course chairman. The event is sponsored by the departments of dairy husbandry, animal husbandry and veterinary science.

Two Idaho producers who have had considerable success in grassland management will be on this year's program.

Labor-saving equipment both stockmen and dairy farmers can use to lower production costs, particularly in feed handling, will be outlined by J. W. Martin, head of agricultural engineering at the University of Idaho.

Animal health problems in Idaho will also be discussed by several speakers.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USDA Grain Chief Cites Progress in Surplus Disposal

MINNEAPOLIS—The task of getting the federal government out of the grain and other farm commodity business was likened to the job of "pushing the Queen Mary away from the dock to get it to sea" at the Minneapolis Grain Shippers Assn. meeting Oct. 23.

Making the comparison was Lloyd Case, director, grain division, Commodity Stabilization Service, U.S. Department of Agriculture, who said that the most gratifying experience in his two years of government work has been in helping shift from government to private trade many functions of farm commodity handling and merchandising.

"Every sound, reasonable and sensible suggestion for aiding agriculture and disposing of surplus grain stocks gets careful study by USDA people," Mr. Case said. "We welcome your ideas and thoughts."

Mr. Case praised the grain trade for its recent recommendations and said "already we can see the effects of the open market on disposing of surplus farm products."

"We are looking for help from folks in the trade, feed manufacturers as an example, in devising a defensible plan for disposing of government stocks of corn, oats and sorghum," Mr. Case said.

When questioned about a subsidy device for corn, Mr. Case said that while wheat and cotton are world crops and command world prices, corn is not a world crop. Wheat, he said, is made into flour and millfeed and prices are comparatively easily established for these two products. On the other hand, corn produces a variety of by-products, each of which commands a varying price on the market. Therefore, a fair subsidy price for corn is difficult to establish, he said.

Mr. Case said that in devising an apparent solution for one segment of the farm economy, a problem is produced to complicate business for another industry. A law, such as the Soil Bank program, has to be implemented to carry out the intent of Congress, with the least possible disruption to the entire economy and be thoroughly checked for legality and national applicability, he said.

A turnout of about 80 members and guests attended the grain shippers' meeting at the Covered Wagon, Minneapolis cafe. Robert Serumgard, Van Dusen-Harrington Co., president, was in charge of the meeting.

Louisville Feed Club Hears Safety Talk

LOUISVILLE—About 30 feed men attended the October meeting of the Louisville Feed Club held at Kapfhammer's Party House.

The guest speaker was Jack Sweitzer, safety division, Louisville Police Department, who discussed traffic safety and especially the need of courtesy to the other driver. Films and slides were also shown.

The club plans a dinner dance and card party for Nov. 16.

Dinner Dance Planned

ST. JOSEPH, MO.—The St. Joseph Feed, Seed, Grain & Fertilizer Club will have its annual fall dinner dance at Clarkie's Edgewood Nov. 3. Dinner will be served at 8 p.m. and will be preceded by a social hour.

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Dr. J. L. Krider

Dr. J. L. Krider Adds Central Soya Duties

FORT WAYNE, IND. — The Central Soya Co. and McMillen Feed Mills have announced the promotion of Dr. J. L. Krider, vice president and director of feed sales, to the newly created post of vice president and director of public relations, according to Harold W. McMillen, chairman of the board.

Dr. Krider will have full responsibility for establishing a public relations department within the company that will function on dealer, employee, feed industry, agricultural college and experiment station, stockholder and general public levels.

Dr. Krider has been associated with Central Soya and McMillen since July, 1950, when he became director of feed research and education. Prior to that, he was professor of animal science at the University of Illinois, and author of two livestock production books and several production articles. In 1951, he was elected vice president and named director of feed sales. He has been active in the American Feed Manufacturers Assn., his latest project being chairmanship of the program committee for the 1956 AFMA convention.

Clayton E. Bixby, 73, Feed Firm Head, Dies

POULTNEY, VT.—Clayton E. Bixby, 73, president of the E. M. Bixby Co., Inc., died recently at Lake St. Catherine, near here.

Mr. Bixby was graduated from Syracuse University in 1908, and began a banking career in 1910. He was elected vice president of the Merchants National Bank, Syracuse, N.Y., in 1918. In 1929 he moved to New Rochelle, N.Y., as president of Huguenot Trust Co., continuing until its merger with the National Bank of Westchester in 1955.

Following retirement, Mr. Bixby became president of the newly incorporated feed firm of E. M. Bixby Co., founded by his father more than 75 years ago.

Surviving are the widow and three daughters. LeRoy Hall, a son-in-law, who has been in charge of the feed and coal business for the past 10 years at the Bixby company, is continuing the business.

W. J. Small Co. Moves

KANSAS CITY — Offices of the W. J. Small Co. Division of the Archer-Daniels-Midland Co. in Kansas City are being moved to a new location. Effective Nov. 5, offices will be in the Centennial Building at 210 West Tenth St. Offices have been in the 12th & Oak St. Building for several years. The new phone connection will be Harrison 1-7448 and the mailing address P.O. Box 356, Kansas City 41, Mo.

Tight Molasses Supply Likely In November-February Period

HOUSTON — The shortage of molasses will approach a critical stage during the four-month period November-February, according to an analysis of the supply situation recently sent to the feed trade by Schmitt & Kern, Inc., Houston and Fort Worth brokerage firm. The most serious shortage will come in January and February, the report predicts.

Summarizing the supply and demand situation, the Schmitt & Kern bulletin says:

"The feed industry has been using molasses at a rate of about 35 million gallons per month or 420 million per year. There is also about five million gallons per month or 60 million gallons per year needed for the manufacturing of yeast and edible syrups. This, then, makes a total need of 40 million gallons per month or 480 million gallons per year. These requirements are exclusive of the need of the distilling industry which the past several years has been using 'High Test' Molasses and only relatively small amounts of blackstrap.

"To meet the requirements of the feed and edible industries, 40 million gallons per month and 480 million gallons per year of blackstrap molasses are needed. This year there is actually only 450 million gallons or just about 11 months' supply available.

"This indicates a shortage of only one month's supply or about 40 million gallons, but it will be March before there is any supply available in quantity, so really there is a three-month shortage. All of the available offshore supplies of the 1956 crop have been shipped and it is generally considered that these stocks will be

(Continued on page 98)

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DAIRY BRAND COARSE GROUND OATS
CRESCENT BRAND PULVERIZED OATS
CORN OATS PELLETS (Corn-Oats)
ENERGEE PULVERIZED OATS
MIXERS' PULVERIZED OATS
MIXERS' COARSE GROUND WHITE OATS
MIXERS' PELLETED OATS
APEX BRAND CRIMPED WHITE OATS
OAT FEED
STEAM ROLLED WHOLE BARLEY
GROUND BARLEY
PEARLED BARLEY FLAKES (Max. 2¼% fiber) (steam processed)
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James W. Miller

Thomas E. Letch

Two Feedstuffs Staff Members Assigned to New Sales Duties

MINNEAPOLIS—Two staff members of Feedstuffs, published by The Miller Publishing Co., Minneapolis, have been assigned to new duties, announces Harvey E. Yantis, president.

James W. Miller, formerly assistant manager of the Kansas City office of the company, has joined the company's New York office sales force as advertising sales representative. Thomas E. Letch, formerly on the editorial staff at the Minneapolis headquarters, has been transferred to Kansas City to serve as assistant manager in that office.

The Miller Publishing Co. publishes five businesspapers. Three are weeklies: Feedstuffs, Croplife and The Northwestern Miller. Two are monthlies: The American Baker and Milling Production.

Mr. Miller joined the Miller Publishing Co. in February, 1946, as editorial assistant in the Kansas City office. He has been assistant manager of that office for the past five years. Following his graduation from Kansas State College with a BS degree in agricultural journalism, he served for three years in the U.S. Army, two of them in Europe, during World War II. He and his wife, Betty, are the parents of two girls.

Mr. Letch, a 1950 graduate of the University of Minnesota School of Journalism, was editor and advertising manager of several Minnesota and Wisconsin weekly newspapers before joining the Miller Publishing Co. in April, 1955. He has been assistant editor of The Northwestern Miller, Feedstuffs and The American Baker. During U.S. Army service, he served in Japan. Mr. Letch and his wife, Kathryn, are the parents of a boy and a girl.

OILSEED MEAL PRICE OUTLOOK

(Continued from page 1)

private trade economists and USDA officials in the opinion that export demand for edible fats will be huge. This opinion, however, does not take into account a possibility that the recent revolution in Poland and Hungary may add to this demand.

If the eastern European uprising is effective, there is no telling where prices may go. If these nations call on the U.S. for aid, there is no doubt that such aid will be forthcoming promptly and that a shortage of ocean shipping will not be any obstacle. If Poland and Hungary ask for aid, the U.S. government will take direct steps to make shipping available. This would mean that the tight ocean shipping situation would be immediately relieved and cargoes of supplies would move quickly to those destinations.

Regarding fats and oils as well as grains—the inclusion of Poland and Hungary in the U.S. export program could mean that it might be necessary for USDA to invoke an allocation program for exports not only of oils but also of grains.

The inclusion of Poland and Hungary as a potential export demand factor is an unseen influence pricewise. However, there appears to be no reason for headlong enthusiasm for sharply advancing prices since the limiting factor is that of ocean shipping, and if the situation reaches a crisis stage, government allocation control over shipments of grains and edible fats will in itself act as a check on sustained price advances.

No Major Upset Seen

At any rate, brushing aside the unknown potential of Poland and Hungary as demand factors, it is believed that there will be no major upset in oil or meal prices this year.

The huge fat requirements of export markets will little more than reduce the carry-in of oil from 700 million pounds as of the end of the past crop year to about 500 million pounds at the end of the current year next fall.

There is excitement because the export demand plus normal domestic disappearance indicates that to meet the total demand, it will be necessary to crush every bushel of beans and all the cottonseed crop to fulfill effective oil requirements at home and in export.

However, what some overlook is that the over-all supply, the crush plus the carry-in, will more than do the job.

More Meal Demand

On the meal side, it is asserted at USDA that the total animal and poultry population, while down from the past year, may take a large share of vegetable protein meals for two reasons. First, animal protein supplies probably will be lower as the animal slaughter will be reduced from a year earlier. Second, with vegetable protein meals predictd to hold within a narrow range near current price levels, those products will be low in relation to the probable corn re-sale price of USDA, which could mean that swine raisers and other producers will probably feed protein more generously and step up consumption of protein products.

Reports from trade sources to this reporter indicate that consumption of all protein supplies will amount to about 178 lb. per animal unit this crop year.

After USDA officials have digested the trade reports and made their own qualifications on the basis of their inside information, they say they do not look for any big bulges on either side of the market from this point. They admit, however, that the oil market can swing higher, and they do not attempt to assess the outlook if the eastern European revolution takes on a broader scope.

The officials believe that neither oil nor meal prices will go substantially lower, but if the eastern European situation explodes further, there is no limit for oils except to the extent that the U.S. government can apply a brake on prices through allocation of exports of both grains and fats and oils.

Prices for edible oils may have taken into account expected procurement authorizations; they may not go much higher. Some trade sources think of soybean oil in terms of 20¢ lb., on the basis of the eastern European revo'ution. USDA doubts any level of 20¢ oil. In this connection, it appears that if eastern Europe maintains its fight, firm allocation controls over exports will put a brake on any sensational rise which might otherwise be seen.

As for meal, the outlook is that any marked decline from current levels is doubtful. For one thing, price relationships with other commodities can make oilseed meal look like a valuab'e property.

When soybean meal was selling at more than $70 ton, Decatur, there was a sustained demand. One must not dismiss the attraction of soybean meal for livestock and poultry feeds, particularly if the price stays within a $45@50 range.

It now begins to look like a year of moderation. It appears that the price of oil and meal will remain within recent bounds, that the huge soybean crop will be substantially crushed—probably as much as 335 mi'lion bushels—and that the processor and consumer will find reasonable profit levels.

Chick Placement Pace in Broiler Areas Slows Down

SALISBURY, MD.—The national trend in broiler production now seems to show a cutback in egg settings and broiler chick placements.

While egg settings and chick placements have remained ahead of a year earlier, the margin of increase is not now so large as it was. Very low broiler prices have been bringing some cutback.

Government reports indicate that broiler prices at the farm in a number of major areas were around 16@17¢ lb. or slightly more early this week.

Nationwide for 22 reporting states, egg settings during the week ended Oct. 20 totaled 29,391,000. This was about the same as the previous week and 7% more than a year ago. Broiler chick placements in the 22 states totaled 19,962,000. This was 5% less than the previous week but 7% more than during the same week a year ago. A few weeks back, egg settings and placements were running about 20% ahead of last year.

Responsible for the recent cutback is the broiler price situation. Last week's average in the Delmarva area was about 18¢.

Broiler chick placements in Delmarva last week were 2,721,000, 3% less than a week earlier and the same as a year ago. Settings, at 3,270,000, were 4% less than the previous week but 13% greater than a year earlier.

Delmarva producers marketed 3,312,000 broilers during last week. This was 11% less than the previous week and 8% above the corresponding week last year when 3,057,000 were marketed. Marketings were 107% of the average weekly placements nine to 12 weeks earlier. This is an indication that Delmarva growers sent the backlog of birds to market they were holding for better prices.

Dehydrated Alfalfa Meal Output Down

KANSAS CITY—A 12% loss in dehydrated alfalfa meal output in September, compared with a year ago, is shown in a report of U.S. Department of Agriculture. Output for the month was 116,600 tons, compared with 132,700 a year ago. The April-September seasonal total amounted to 833,900 tons, against 1,017,300 produced in the similar six months of the previous crop year, a drop of 17%.

Stocks on hand at alfalfa plants on Sept. 30 were 379,900 tons, compared with 450,400 a year earlier, a drop of 16%.

Using the government figures as a base, the American Dehydraters Assn. calculates six months disappearance at 547,400 tons, down 68,100 from the like period of the preceding crop year. Past disappearance history suggests that this would mean a total 12-month disappearance—May, 1956, through April, 1957—of 1,088,100 tons, compared with an estimated production during that period of 992,900 tons. The difference would be made up out of carry-in stocks this year and would reduce the carry-over next April 1 to a below-average figure.

"The factors which might alter this," ADA officials said, "are increased and hitherto unexperienced demands from the drouth disaster area for the product; the possibility that large users have postponed purchases of needed supplies beyond their previous custom or that historical patterns for some unknown reason have lost their significance."

Pfizer Opens New Distribution Center

CHICAGO — Chas. Pfizer & Co., Inc., this week officially opened its new Midwestern Distribution Center at 6460 Cortland St. to serve customers in a 15-state area.

John E. McKeen, president and chairman of the board, and a group of other Pfizer executives were hosts at an open house and buffet attended by approximately 1,000 civic and business leaders and members of hospital, pharmaceutical, chemical and agricultural groups in the Chicago area. Alderman Alfred J. Cilella joined Mr. McKeen in cutting the ceremonial ribbon, officially placing the center in operation.

The company, which has its headquarters in Brooklyn, first assigned a salesman to the Chicago area 75 years ago and has outgrown warehouse and office facilities at four locations in the city. For the past few years the branch has been located in the Mandel-Lear Building on Michigan Ave.

In welcoming the guests, Mr. McKeen described the company's role in the chemical field and some of its newer products.

The two-story brick and concrete structure contains 79,000 ft. of warehouse space, part of it air-conditioned for the storage of heat sensitive chemicals and drugs. Specially designed materials handling equipment has been installed. The company manufactures products for food, beverage, medicinal and industrial use and a line of products for animal health and nutrition.

Offices, a lunch room, all on the second floor, cover an area of 20,000 sq. ft. and are also air-conditioned. The center has three freight loading docks and is served by the Milwaukee Road. For truck transportation, the branch has five loading docks.

The distribution center is the fifth and largest erected by the company under its branch expansion program. Other branches are in operation in San Francisco, Atlanta, Dallas and Portland. All four of the company's marketing divisions—Pfizer Laboratories, J. B. Roerig & Co., Chemical Sales and Agricultural Sales—will have their regional headquarters in the center.

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Time was when any reasonably well made feed would do the job . . . "Feed-Egg Ratio" was not yet a very well known term, and the chicken raiser wanted little more than enough eggs for his own family's needs, with perhaps a few extras to trade for groceries on Saturday night.

Today, it is not only the big, professional poultryman who keeps records . . . even the farmer with his family flock knows which feeds help his hens produce at top levels and that's the feed he'll keep using. That is, he'll keep using it until he finds a *better* one. Then, he'll change.

Day by day, leading feed manufacturers are switching to Borden's MF-FL Blend for complete, dependable, *extra* fortification in their poultry rations.

The superiority of Borden's MF-FL Blend has been firmly established by its many years of leadership in its field. It is a potent source of *two* tremendously important unidentified growth factors . . . the "fish factor" from condensed fish solubles, fish liver and glandular meal, and fish meal . . . and the "whey factor" from condensed whey solubles. These two vital nutritional elements are *further* supplemented and enhanced by multiple fermentation factors derived from grain and milk sources. And, this natural-source fortification is *standardized* with critical B vitamins, betaine, methionine, BHT, menadione and manganese. Further, Borden's MF-FL Blend is available *with* or *without* guaranteed levels of antibiotics and vitamins A and D.

The continued growth of your feed business depends on one thing more than any other . . . *quality of product*. Nutritional science is moving with steadily increasing rapidity and you owe it to your business to make certain that your feeds maintain their position of leadership in your market. The Borden man will be glad to show you how MF-FL Blend can add new production power and hatchability to your layer and breeder rations.

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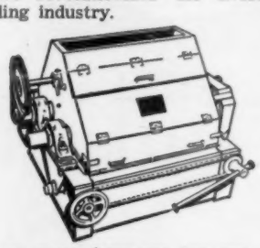

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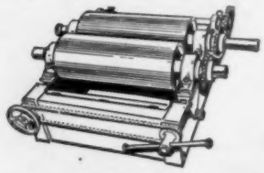

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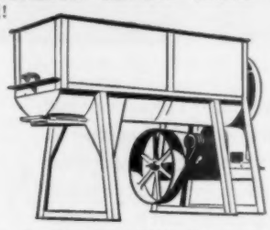

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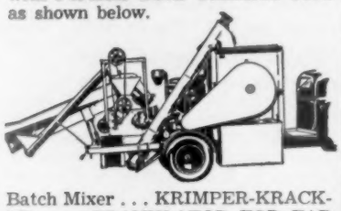

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Improving Employee Relations

By OLA C. COOL
Director, Labor Relations Institute

Do They Think?

This question comes up regularly at conferences: "Why don't more rank and file workers use their heads and think, even if just a little bit?"

Most mill operators have told us that a fairly good percentage of their men do a little routine thinking about their work, but stop at that. A good many men in top management have the feeling that workers do but little independent thinking of any kind. Employees themselves frequently come up with this kind of an answer: "Why should we bother to do much thinking. We have others who can take care of that, so what."

The quite natural question which top management often ask is this: "If they don't think, what causes them to act the way they do sometimes?"

The answer to that question, which many an operator knows from his own experience, is to act according to the impressions which others have already made. What they read, hear and see creates the impressions which motivate them.

What Happens

Here's about what happens in the mind of your worker: He accepts what he reads and hears as facts according to his degree of understanding, which sometimes may be very little. Because of his varying degree of understanding, his idea of the real meaning and personal application of what he reads and hears may be widely different from the truth. His acceptance of what he hears depends largely on his personal confidence in the speaker.

He is also liable to believe what pleases him—what caters to his ego directly or indirectly and thus makes him feel important. Thus, your worker is pretty liable to feel that he has made up his own mind. Actually, however, his mind has been made up for him according to the impressions given him through his reading and listening—mostly the latter. He is not inclined to question the accuracy of what he hears or reads—he does not ask himself or anyone else—"Why is this so?"

Mill operators have asked these questions: "Is it our concern what our workers think and how they arrive at their conclusions? And if so, what can we do about it?"

The thinking or lack of it—the lasting impressions in the minds of your employees—are of a great deal of importance. Their "feelings" or "impressions" of "thinking" affects their attitudes towards their work—quality and quantity. They contro their attitudes towards the company.

The next question, naturally, comes, "What can I do about it?" You can do a great deal to aid your workers to think out the answers to questions for themselves. You can also implant ideas in their minds, which in time become lasting impressions that can change not only their way of thinking but what they think. You can, thus, help them to become more intelligent, more understanding workers, and also better citizens of the community. This is a vital part of your responsibility and also your opportunity.

First, you must have faith that you can meet this tremendous responsibility. Second, you must accept the fact that the successful leadership of the thinking of your people demands untiring, constant repetitive effort on your part. You must not only win confidence, but must retain

Feedstuffs Introduces a New Feature and Its Author

Feedstuffs this week offers a new editorial feature which will provide practical suggestions on how feed mill managers and other readers can improve their working relationships with employees. The first in this series of articles, written by Ola C. Cool, director of the Labor Relations Institute, appears on this page.

Ola C. Cool

A nationally-known consultant to management, Mr. Cool founded the institute in New York in 1940. He describes it as "a management-endowed organization, dedicated to the service of employers on their labor relations problems."

The institute now has 5,600 members in the U.S., Canada, Alaska and Great Britain. Mr. Cool edits the institute's bi-weekly report to members on current labor relations topics and its twice-a-month publication for supervisors, Foreman Facts.

While the institute was located in New York, Mr. Cool was chairman of the industrial relations committee of the mercantile section of the New York Board of Trade. The institute's present address is 11 Hill St., Newark 2, N.J. The institute has made some special studies of the labor relations and supervisory problems of the milling industry, the results of which will be reflected in the articles to be published under Mr. Cool's name in Feedstuffs.

I SAVED 2,000 BUSHELS OF CORN—AND **HOT SPOT** DETECTOR DESERVES ALL THE **CREDIT...**

Sudden "Hot Spot" Threatened Bin Temperature Shot Up to 128 in Two Days' Time

Owen Manning, Manager of Farmers Elevator Co., Rock Valley, Iowa tells the story . . . "On Saturday we read our Hot Spot Detector system. Two days later I measured for our insurance report and thought I would again read the temperatures . . . one spot had gone up to 128 degrees in two days' time. We ran the corn immediately and were able to cut out the heating spot. This 2,000-bushel lot was treated and the temperature was down to 87 degrees two days later. I believe this corn will still grade No. 2 yellow—thanks to Hot Spot Detector."

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Owen adds: "We installed our Hot Spot Detector system in 1950, and it has paid for itself several times since. In fact we purchased two more systems for our flat storage buildings."

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L. E. Doxsie

NEW POSITION—L. E. Doxsie has been appointed assistant manager of the corn division of the A. E. Staley Manufacturing Co., Decatur, Ill., announces L. S. Roehm, vice president and manager of the corn division. Mr. Doxsie, who has been materials and methods superintendent since 1953, has been with the Staley company for 23 years. He has served progressively as division and production superintendent. He will take over the newly created position on Nov. 1.

it by speaking up as the leader. The desire to help your people—to help themselves must be uppermost in your mind.

In teaching your workers to think, you should ask questions which require some thought in order to arrive at the answers. Make certain that you know the answers yourself before you ask the question, however.

Don't tell a worker that he is wrong or that his thinking or reasoning is incorrect. Rather say, "You may be right, Joe. But let us think it out along this line."

For instance, you might start with a question on simple economics. Later, when the correct answer has been given, branch out into questions which require a bit more reasoning and keep on along this line. Don't become discouraged because this is a long-time project. Keep up your efforts and they will produce the kind of results which you want.

AOAC Establishes Harvey Wiley Award

WASHINGTON — Kenneth D. Jacob, president of the Association of Official Agricultural Chemists, Oct. 15 announced the establishment of the Harvey W. Wiley Award for analytical methods, at the association's 70th annual banquet.

The award honors the memory of the founder of the federal pure food and drug law, who was also one of the founders of the association.

Mr. Jacob said that the annual award, which carries a cash prize of $500, will be presented to the scientist or group of scientists which makes an outstanding contribution to development of methods of analysis of foods, cosmetics, drugs, feeds, fertilizers, pesticides and soil, as well as for methods in general analytical chemistry. The first award will be given at the 71st annual meeting of the association in October, 1957.

EXPLOSION AND FIRE

LE ROY, N.Y.—A grain dust explosion followed by fire caused an estimated $25,000 to $30,000 damage to the Free Feed Mill here. Volunteer firemen from a wide area were called to fight the blaze.

400 Hear Nutrition Talks At California Conference

By EMERY A. JOHNSON

Nutritionist, Poultrymen's Cooperative Association of Southern California

FRESNO, CAL.—A varied program greeted the more than 400 feed men and others who attended the 9th California Animal Industry Conference, Oct. 15-16, at Fresno, Cal.

With subjects ranging from the nutrient problems adherent to garbage feeding of swine to new grain and vegetable protein crops, and from the nutritional problems of turkeys to range manipulation for improved forage for grazing animals, the series of sessions was keynoted by Dr. George B. Alcorn, director of the Agricultural Extension Service, University of California, when he stated that our children will not be feeding livestock as we now feed them.

He went on to say that the future belongs to science and that three revolutions now in progress are affecting all of agriculture. Not only has mechanical progress permitted machine picking of cotton and the harvesting of other crops, and has taken over much of the manual labor on the farm, but mechanics will be adapted to all farm work, even to the extent of picking grapes and tomatoes by electronically controlled devices. The expanding availability of new drugs, Dr. Alcorn said, is a chemical revolution which has especially affected the poultry industry and certainly has modified every phase of plant and animal production. He cited as an example of the genetic revolution, the remade turkey of

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TURKEY NUTRITION: In a thorough discussion of the nutritional requirements of turkeys, Dr. Milton L. Scott of Cornell University declared that the ratio of energy to protein and other nutrients is probably the most important consideration in feed formulation. He described a series of studies completed in 1948, in which the poor growth occurring in poults receiving a low-energy diet could not be improved by the addition of protein, known vitamins or unknown factors, but that a marked improvement in poultry growth occurred when the energy level was increased. More recent experimentation, he said, indicated further improvement with an increase of protein to 28% and a Calorie:protein ratio for starting poults of about 29 to 30. Dr. Scott pointed out that as the birds grow older, the absolute quantity of energy should be increased and the protein level decreased approximately as follows:

Age period (wks.)	Productive energy (Cal./lb.)	Protein (%)	C/P
0-8	820	28	29
8-12	850	20	43
12-16	900	18	50
16-20	940	16	59
20-26	980	14	70
Breeders	900	18	50

Proteins, Minerals and Vitamins: In referring to protein, Dr. Scott assumed that it is of good quality, meaning that all of the essential amino acids are supplied in adequate amounts and in proper relationship to each other. He told the audience that evidence is somewhat lacking concerning the requirements of turkeys for "trace minerals," with the exception of manganese. He explained, however, that recent demonstration suggested some factor or factors in the ash of distillers dried solubles, fish solubles and dried whey which may be required for growth and for proper bone formation.

The requirements of turkeys for several of the known vitamins have been studied extensively by numerous workers, and the data presented in Table 1 show Dr. Scott's interpretation of the accumulated information. He has included some values in spite of the lack of experimental evidence concerning minimum requirements, but the levels which are indicated are those that were present in rations in which further additions of these vitamins failed to improve results.

Unidentified Factors: Research studies have shown that poults require several unidentified factors for normal growth and that turkey breeders require one or more for maximum hatchability. Dr. Scott reported that his own investigation shows good evidence for a requirement of at least two organic unknown growth factors and perhaps one mineral factor. One of these organic factors appears to be present in largest amounts in products of animal origin such as fish solubles, some samples of fish meal, and in liver. The other is present in largest amounts in fresh forage juice, but is also found in dried whey, other milk by-products, and in dried brewers yeast. Dr. Scott said that distillers dried solubles seems to be the best source of the mineral element.

In continuing his discussion on unknown factors in the diets of turkeys, Dr. Scott indicated that the growth-promoting properties of at least one are interrelated with the effects due to the presence of antibiotics. He said that apparently the addition of antibiotics to the starting ration spares to a great extent the requirement of the poults for the factor present in grass juice. However, this unidentified factor-sparing effect of antibiotics does not continue throughout the complete growth period of the turkey. If the antibiotic is added to a diet which does not contain a special source of the unknown food element, the growth-promoting effect of the antibiotic may disappear by the time the turkey is 12 to 14 weeks old. On the other hand, growth is stimulated throughout the turkey's complete growth period when enough of the unidentified factor is present in the diet.

Factors Required for Prevention of Leg Weaknesses: In recent experimental work at Cornell, Dr. Scott said that it has been found that niacin in larger amounts than is necessary for maximum growth is required to prevent the perosis-like syndrome called enlarged hock disorder. The Cornell results show that turkeys receiving a diet of corn, wheat, oats, soybean meal and fish meal, with appropriate mineral and vitamin supplements, need approximately 35 milligrams of niacin per pound of ration to prevent the disorder. It was pointed out by Dr. Scott that, since most practical rations contain only about 20 milligrams of niacin per pound, it might be necessary to use niacin supplements to provide an additional 15 to 20 milligrams in order to insure prevention of leg weakness due to niacin deficiency.

Because vitamin E and an unidentified vitamin present in dried brewers yeast are also required for normal

Table 1—The Vitamin Requirements of Turkeys (per lb. of diet)

Vitamin	Approx. amount required 0-12 wks.	12-20 wks.	20-26 wks.	Breeders
Vitamin A, I. U.	4,000	4,000	4,000	4,000
Vitamin D_3, I.C.U.	600	600	600	600
Vitamin E, I. U.	10	10	10	25
Vitamin K, mg.	1.5*	1.0*	1.0*	1.0*
Thiamin, mg.	1.1*	1.0*	1.0*	1.0*
Riboflavin, mg.	2.0	2.0	2.0	2.0
Pyridoxine, mg.	2.0*	1.6*	1.6*	2.0*
Pantothenic acid, mg.	7.0	5.0	4.5	8.0
Folacin, mg.	0.4	0.4*	0.4*	0.4*
Niacin, mg.	35.0	30.0	25.0	15.0
Biotin, mg.	0.06*	0.05*	0.05*	0.05*
Choline, mg.	900	800	700*	600*
Vitamin B_{12}, mcg.	4.0	2.0	2.0	2.0

*Values estimated; no experimental evidence available.

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leg development, Dr. Scott recommended to turkey growers who are experiencing economic loss from the hock disorder, that they include, in addition to niacin, 5 grams of alpha-tocopherol acetate (vitamin E) per ton of feed, plus 1 to 2% of dried brewers yeast.

NUTRITION OF GAME BIRDS AND WATERFOWL: In raising game birds and waterfowl for propagation in the wilds, Dr. Scott said, the objectives differ from those prevailing in the production of domestic birds for meat and eggs. In the latter instance, the goal is the greatest quantity of meat or eggs at the lowest cost of production, depending upon good management conditions to assure the survival of the animals until their useful life is completed, whereas game birds and waterfowl must be raised in such a way that they are best able to survive under the adverse conditions which they are likely to encounter upon being released.

Starter Ration for Game Birds: The protein, vitamin and mineral requirements of pheasants, like those of turkeys, are somewhat higher than the requirements of chickens. Dr. Scott described the usual starting ration as one containing 700 to 800 calories of productive energy per pound, a protein level of approximately 28%, and vitamins, minerals and unidentified factors as recommended for poults, as well as 5 to 20 grams of an antibiotic per ton of feed.

He stressed the value of maintaining fairly high fiber levels in the diet in order to produce birds with firm, healthy bodies which are well feathered. This can be accomplished, he said, through the use of generous quantities of feedstuffs such as oats, barley and wheat mill-by-products, which (1) reduce the protein requirement (because at lower energy levels the birds consume more feed and therefore require a lower percentage of protein in the diet); (2) improve feathering; (3) reduce the tendency toward feather-picking and cannibalism; (4) increase the size of the gizzard, and (5) decrease the amount of fat deposited in the body.

According to Dr. Scott, crumbles appear to be the most satisfactory form of feed for starting rations for several reasons: (1) Crumbles are readily consumed by all types of game birds; (2) growth is usually superior on crumbles as compared to the same feed in mash form, and (3) since pellets and whole grains are used as growing feeds, the transition from crumbles to the growing rations is not so abrupt as the transition from mash to pellets and grains.

Growing Ration (Supplemented Scratch-Grain Rations): The protein requirements of pheasants and quail appear to drop at about the same rate as for turkeys, according to Dr. Scott. In order to provide the nutrients needed by game birds during the growing period, as well as to produce individuals that are capable of survival in the wilds when natural feed must be consumed, Dr. Scott described a technique of feeding based largely on the use of whole grains supplemented with pellets which contain the necessary proteins, minerals and vitamins. The formula is given in Table 2. For pheasants, quail and wild turkeys, the supplement is made in the form of ⅛ in. pellets and used with grains in the following amounts:

Four to 9 weeks of age: Pellets, 940 lb.; cracked corn, 400 lb.; whole oats or barley, 300 lb., and molasses, 60 lb. per ton of growing ration.

Nine to 18 weeks of age: Pellets, 520 lb.; whole corn, 540 lb.; whole oats or barley, 440 lb.; whole wheat, 440 lb., and molasses, 60 lb. per ton of growing ration.

Dr. Scott said that it has been found that by coating the grains with molasses prior to adding the pelleted supplement in the process of mixing the growing rations, the birds consume the total feed without picking out certain grains or pellets and leaving other grains, especially oats and barley.

Experiments on Effect of Diet upon Ability of Pheasants to Withstand Stress: Young pheasants upon being placed on range often succumb to the stresses of exposure, especially to cold drenching rains. Dr. Scott described several experiments which were carried out to determine if dietary means could be used to improve the ability of young pheasants to withstand such stresses. For the first experiment, six different commercial rations which were recommended by their manufacturers as being adequate for starting pheasants, were fed to separate lots to four weeks of age. An additional lot received an experimental diet containing 28% protein.

When the pheasants were four weeks of age, they were toe-punched for identification and placed in a small wire enclosure and subjected to artificial rain for two hours. The room temperature was 65° F. and the water temperature 60° F. "Rain-fall" was adjusted to a rate of 0.7 in. per hour. At the end of the two-hour period, there were considerable differences between lots, all of the pheasants raised on one commercial diet being prostrate and only 31% of another lot being so affected, with the remaining groups showing intermediate responses to the adverse conditions. Dr. Scott concluded from these results that it is possible to alter, by dietary means, the ability of pheasants to withstand climatic stress. A further trial indicated that increasing the protein level to 34% by the addition of either casein or liver meal markedly improved the resistance to stress.

NUTRITION OF LAYING AND BREEDING HENS: It is possible to overfeed poultry on certain dietary factors, according to Gordon E. Bearse of the Western Washington Experiment Station. Reporting on an extensive trial involving 900 White Leghorn and 840 New Hampshire pullets, Mr. Bearse said that additional B-vitamins tended to slightly suppress egg production in both breeds when rate of lay was calculated on a hen-day basis. When production was measured on a hen-housed basis, the apparent depressing effect of the added vitamins appears to be eliminated. In view of the tendency for vitamin supplementation to reduce mortality, it was suggested that the higher vitamin level prolonged the life of birds out of production.

Table 2—Pheasant, Quail and Wild Turkey Grower Supplement (⅛" Pellets)

Ingredients	Amt. per ton (lb.)
Soybean meal, 50% protein, low fiber	1,315
Fish solubles, dried	50
Brewers yeast, dried	100
Distillers solubles, dried grain	100
Whey, dried	100
Alfalfa meal, 17%, 100,000 A/lb.	100
Dicalcium phosphate	100
Limestone	100
Manganese sulphate	2
Salt, mineralized	10
DL-methionine	3
Stabilized vitamin A, 4,000 A/lb.	8
D-activated animal sterol	4
Riboflavin supplement, 3,600 mg./lb.	2
Antibiotic supplement, 5 gms./lb.	5
Vitamin E supplement, 20,000 U/lb.	1
Niacin, pure, gms.	80
Total	2,000

Mr. Bearse also reported that additional B-vitamins reduced hatchability of fertile eggs from 87.4% to 85.1%, increased body weight gains and egg weight, and had no effect on rate of growth of progeny, color of egg yolk, strength of egg shells or quality of albumin.

Energy Requirements: Contrary to the findings at other laboratories, Mr. Bearse reported that work at the Western Washington Station indicated equal production on low and high energy feeds. White Leghorns fed a diet containing 1,148 calories of metabolizable energy per pound laid at the rate of 69.8%; while those on a ration with 1,331 calories, responded with a production rate of 69.9%.

There was a difference in feed efficiency, however; 4.8 lb. of the low-calorie diet were required to produce a dozen eggs compared to 4.3 lb. of the high energy ration. The energy level had no effect on hatchability, egg size or egg quality, but the hens on the higher-caloric feed were somewhat heavier at the end of the experimental period.

Mr. Bearse pointed out that winter temperatures are higher in Washington than in the eastern states where variations have been found in the productive rate of birds fed several levels of energy. He concluded that laying and breeding hens kept in warmer temperatures require less energy in the maintenance of body temperature and therefore for western poultrymen a general recommendation of high energy diets during the winter months does not seem warranted.

LYSINE: A deficiency of the amino acid lysine results in both growth depression and depigmented web of feathers in Bronze turkeys and Barred Rock chickens. Pran Vohra, research assistant in the department of poultry husbandry of the University of California, asked if this was a general phenomenon, and proceeded to answer his own question. He pointed out that not only are the black feathers of poultry affected by a lack of lysine, but it is possible to produce a grey coat in black rats by feeding a diet low in this amino acid.

It is known, he said, that three other amino acids, tyrosine, phenyla-

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lamine and tryptophane, form melanin (the black pigment) in the presence of an enzyme, tyrosinase. It is also known, he went on, that the enzyme is activated by copper and that the presence of molybdenum interferes with copper utilization. It follows, therefore, that the absence of copper, or the presence of molybdenum, produces depigmented hair in mammals. But this is not true of feathers in poultry, Mr. Vohra explained, for it is not possible to bring about a grey color in plumage either by a deficiency of copper or by the addition of molybdenum to the diet of the turkey or chicken.

Mr. Vohra described a chemical experiment in which he extracted the coloring matter from normal and depigmented feathers. He found less enzyme activity in the extraction from feathers of birds fed a ration deficient in lysine, but he said he was not sure if this meant a smaller quantity of the enzyme or the presence of some inhibitor which counteracts the activity of the enzyme.

Where does lysine fit into this complex picture of normal versus depigmented feathers and hair of birds and mammals? Mr. Vohra said that its effect may be hormonal, but extensive research is necessary to accurately determine the role of lysine in feather and hair coloration. He did emphasize that supplementary lysine in the diet of the human does not prevent grey hair.

OTHER HIGH POINTS: Howard Sturgis, director of the Industrial Products Division of the National Fisheries Institute, in describing recent fish meal processing developments, said that fish meals vary in nutrient qualities and that the guarantee of percentage of crude protein on the tag may have little in common with the amino acid makeup of the contents of the bag.

The National Fisheries Institute is interested in this problem and is endeavoring to find a quick chemical test which will parallel the growth qualities of the meal. With respect to unidentified growth factors, Mr. Sturgis indicated that battery experiments many times do not give the same results as practical management, that unknown factors sometimes appear to be effective in promoting growth of floor birds while not being able to support greater growth in birds raised in batteries.

Swine Nutrition: California, although below 20th place within the nation in pork production, raises more hogs on garbage than any other state. The widespread feeding of garbage creates a problem in swine nutrition, according to Dr. Hubert Heitman of the division of animal husbandry of the University of California, who suggests that 10% barley and 50 grams of an antibiotic per ton be added to the garbage diet for better weight gains and feed efficiency. Firmness of meat is one of the requirements in pork production, and while 10% barley does not result in marked firmness improvement, the carcass is better finished.

Nutritional Problems of the Range Livestock Producer: Dr. William Weir of the University of California stated that the livestock producer can realize a greater return from his grazing animals by feeding limited quantities of concentrates over a long period of time rather than attempting to bring them into condition by heavy feeding after prolonged nonsupplementation while on range. Limited feeding, Dr. Weir explained, maintains the rumen microorganism population and keeps the animal in better health. He also said that the grazing animal must have a source of carotene if it is on dry forage, and trials indicate that bud-stage alfalfa is a better all-around supplement than barley, barley plus cottonseed meal, cottonseed meal, or alfalfa in full bloom.

Dr. William Williams of the University of California pointed out that fertilization of existing ranges resulted in increased carrying capacity, greater animal gains and more total production of meat per acre. In one field trial, he said, fertilization of the range soil produced 125 lb. extra meat per acre at a cost of 12.4¢ lb. Not only does soil improvement produce more forage for grazing animals, but the range is ready six weeks to two months earlier for ranging. It is possible, Dr. Williams explained, to introduce certain species of grasses in some instances to further increase the carrying load of the range.

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St. Regis Paper Co. Has 38% Sales Gain

NEW YORK—Sales and net income of St. Regis Paper Co. reached new highs the first nine months of 1956 when sales hit $247,881,957, compared with $179,612,612, in the comparable period of 1955.

The 38% increase was due largely to the inclusion of sales of the companies which St. Regis acquired in 1955 and 1956.

The company reported net income for the first nine months of this year, after provision for income taxes, at $17,124,824, compared with $13,175,434, in the like period of last year. The current earnings were equal to $2.40 a share of common stock on 6,952,324 shares, compared with $2.15 a share earned in the first nine months of 1955 on 5,932,478 shares.

However, the nine months consolidated earnings for 1956 included only five months earnings of Rhinelander Paper Co. and Pacific Waxed Paper Co., whereas the number of shares used in computing the earnings a share included the 561,909 shares issued in acquiring these two companies. If the earnings of these two new subsidiaries had been included for the full nine months of 1956, the consolidated net earnings of St. Regis would have been $2.51 a share.

Earnings in the third quarter were affected by a shutdown at the Jacksonville, Fla., mill for equipment installations.

Directors of St. Regis have declared a dividend of 50¢ a share on common stock payable Dec. 1 to stockholders of record on Nov. 2. The board also declared the regular quarterly dividend of $1.10 a share on the preferred stock, payable Jan. 1, 1957, to stockholders of record Dec. 7.

SUMMARY OF CONSOLIDATED INCOME
Nine Months

	1956	1955
Net sales	$247,881,957	$179,612,612
Costs and expenses	211,967,034	152,760,500
Net income before taxes	$ 35,914,923	$ 26,852,112
Provision for taxes on income	18,773,994	13,676,678
Net income, including portion applicable to minority interests	$ 17,140,929	
Income applicable to minority interests	16,105	
Net income	$ 17,124,824	$ 13,175,434
Per share on common	$2.40	$2.15
Dividends paid on common	$1.40	$1.35

Milling-Grain Club Ends 1956 Outings

ST. LOUIS, MO.—The St. Louis Milling & Grain Club held its final outing of the 1956 season at Glen Echo Country Club on Oct. 5, with 105 members and guests in attendance. A golf tournament was the principal attraction during the afternoon.

Raleigh B. Wilson, Checkerboard Elevator Co., first vice president of the club, presided at the meeting which took place at the conclusion of the dinner. He welcomed guests and submitted applications for membership from John Parson, California Pellet Mills; Herbert Gruber, United Bags, Inc., and Jean Lacy, Burlington Railroad, all of whom were unanimously approved.

After distribution of golf and attendance prizes, and a brief discussion of club problems, Mr. Wilson announced that the next meeting of the club would be a dinner dance Nov. 24 at the Chase Hotel in St. Louis.

Ohio Bag Plant Leased By Arkell & Smiths

NEW YORK—Arkell & Smiths has purchased the bag-making equipment and plates of the Thomas Phillips Co. at Akron, Ohio, it has been announced by Sheldon Y. Carnes, vice president and general sales manager of Arkell & Smiths.

A&S has leased the Thomas Phillips bag factory and will operate this plant in addition to the four A&S bag plants at Wellsburg, W. Va.; Canajoharie, N.Y.; Hudson Falls, N.Y., and Mobile, Ala.

Thomas Phillips manufactured small sugar, salt and rice pockets, and flour bags and containers. Founded in 1872, the Thomas Phillips Co. has long been one of the leading manufacturers of flour bags. Its acquisition by Arkell & Smiths establishes A&S as one of the leading manufacturers of small flour bags.

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Advantages of

On-the-Farm Feed Merchandising

By ROBERT WAITE, JR.

EDITOR'S NOTE: The author of this article contends that the long-term success of the feed retailer will be to a considerable degree contingent upon developing a strong outside selling program. The advantages of such a program were outlined by Robert Waite, Jr., Dannen Mills, Inc., in a talk at the recent convention of the Grain & Feed Dealers National Assn. in Chicago. The text of this talk follows:

v v

As a feed industry representative and a firm believer in on-the-farm merchandising, and the many advantages accruing to the dealers who are doing it, I have some suggestions for a program that will help retain the retailer's position in the over-all plan for the distribution of commercial feeds.

Without quoting the many available figures supporting the facts, I'm sure we can and will agree that our nation's agricultural picture is undergoing a rapid change.

We have a definite pattern established which indicates an even lesser number of farm units in the future, with each unit becoming substantially larger from an acreage standpoint. Improved production methods, modern machinery, competition from other industries, better educational facilities, changed marketing conditions and many other factors have made it increasingly difficult for the small farm operator to compete successfully with his larger counterpart. We might argue that this change is not in the best interest of our future agricultural position, but since it seems to be inevitable, we need to face this changing situation.

Businessman-Farmer Appears

This trend has been the cause for a steady increase in a new kind of farm operation. This man has been designated as the businessman type of farmer. He is a manager of many diversified interests, a friend and confidant of his banker, a planner and a man who recognizes the need for keeping accurate records relative to the conduct of his business. In many cases, due to the increased scope of his operations, he devotes much less time to physical labor, with more being given to planning and direction. He is often an employer and as such must assume the additional responsibilities involved.

Mr. Farmer of today is totally different from his predecessor in many ways. He must be familiar with government regulations, determine their significance to him, and in many cases, help with their administration. He actively participates in, and becomes a more dominant factor in his community life. He is better informed concerning those factors which will have an effect on his business.

One substantial difference is the changed investment picture. Due to the increased size of individual farm units, plus currently higher valuations, his farming operation represents a proportionately greater investment than in the past. In addition to increased land and building values, his equipment requirements are substantially greater. Even his requirements for operating capital are at higher levels. We should certainly not overlook the improved standard of living that he has come to accept. It takes a lot of capital to set up a farm operation under current conditions. The homesteader of today has far less chance to survive than was the case in the past.

In many areas today, the individual farm investment represents a substantially greater outlay of capital than that required by a high proportion of the local business firms. This is quite often true of the dairy farmer in Wisconsin, the feed lot operator in Iowa and Nebraska, the rancher in Texas and the Southwest and the commercial turkey or poultry raisers in the East and Far West. Take a look at most any small town in a rural area and make your own analysis.

Farming Is Big Business

Farming has rapidly become big business and all predictions point toward it becoming bigger. The individuals who conduct large scale operations are entitled to be treated as business men. Because of his expanded activities, the farmer's time is rapidly becoming more valuable. Gone are the days when the good farmer feels he has the time to use his feed dealer's merchandise as a loafing place. Under present conditions the farming business is too competitive to permit him to operate as did the farmer of yesterday, and the good farmer operates his work on a schedule. The day of the sack-riding farmer is passing as surely as the day of the sack-riding feed merchant.

Perhaps the previous information will help to point up the idea we are trying to get across. Let's take a look at your community or any other of your choosing. If a new merchant opens his doors he is immediately exposed to many salesmen offering their respective lines. Does the salesman who offers merchandise to this merchant neglect to see him again because of failure to make a sale on the first few calls? Does the salesman who secures the initial

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order assume that there is no necessity for further contact? We all know the answer to both of these questions. Regular contact by possible suppliers continues as long as the business is in existence.

By way of contrast, it appears that in many cases, the farmer, who frequently offers far greater purchasing capacity, is neglected at his place of business by the man who should be most interested, his local feed merchant. Instead of actively soliciting the farmer's business, he has apparently assumed that if the farmer wants the product he has for sale, he'll come by and order it from him. Far too many local dealers have taken the stand that they can't afford to make on-the-farm contacts, without thoroughly exploring all of the possibilities. It is my firm conviction that with the exception of isolated circumstances, the dealer who wants to grow and prosper, can't afford not to make such contacts.

On-the-Farm Selling Advantages

On-the-farm merchandising, in the form of a regular, organized, outside selling program, offers the feed dealer the greatest opportunity to successfully meet the challenge of 1957. The plan can pay off in many ways, both tangible and intangible. Let's take a look at some of the advantages accruing to the dealer who takes his proposition to the farmer.

1. It is definitely established in the farmer's mind that the dealer values his business.

2. More creative selling promotion is possible, when individual potentials and needs are determined through on-the-farm analysis.

3. The dealer is better able to retain present business, since he is in a better position to determine that products are being properly used for maximum results.

4. The dealer is able to prevent loss of business which sometimes results from misunderstandings, or minor irritations. The contact man has a chance to correct such situations.

5. Regular farm calls on an organized basis can help to reduce delivery costs, and enable the dealer to operate with a lower inventory for improved merchandise turnover.

6. Through regular contacts, accounts receivable can be better controlled, and bad debt losses minimized. Dealer will be able to make better use of his operating capital.

7. By making regular farm calls, the dealer is able to stress the service angle in the most effective way to offer assistance to the farmer with his problems.

8. The dealer acquires community prestige on the basis of field representation.

These are but a few of the advantages and there are many more which are recognized by the progressive feed dealer. Of course, the greatest single advantage to the dealer will be reflected in the increased tonnage and profits received.

Definite Schedule Needed

To be successful, an outside selling program must be organized and operated on a regular basis. All dealers would not be justified in having a full-time outside salesman. Thus, it is important that a definite schedule be established for on-the-farm selling. This may vary from one to five days per week according to the need and available manpower. The important factor is to maintain a regular schedule once the program has been started. In too many areas

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the outside man is unable to perform his job on a regular basis, due to other job requirements, and much of his effectiveness is lost. Any farm contacts help but when done on an irregular basis the cost is often prohibitive.

Common Objections

Dealers give a variety of reasons for their failure to adopt, and put into effect, outside selling programs. Some are:

1. I can't afford to pay a salesman and his expenses, because the cost will be greater than the profit to be made.
2. I'm satisfied with my present volume. Don't believe an outside man could help it much.
3. I can't find the right man for the job.
4. I won't be able to train a man myself and I don't believe a salesman can get the job done as infrequently as I [illegible]
5. Farmers will resent it if I have a salesman call on them regularly.
6. This business never had to beg for trade and I'm not going to start now.
7. My other employees will resent the time the outside man spends selling because his job will be much easier than theirs.
8. If my line of feeds is good the farmer will find it and I'll save some costs.

Most of us recognize that these reasons are fallacies and they generally come from the dealer who has never tried outside selling, or at best, has made a half-hearted attempt. They seldom come from the young, aggressive feed merchant, who wants to become a greater factor in his market, but rather from the man who has been reasonably successful in the past, when conditions were different, and is now content to stand put until such time as he can retire. In some few cases dealers have been improperly advised when installing an outside selling program and have become soured on the entire proposition.

Important Success Factor

It has been my privilege, and I am sincere in the use of this word, to operate several different retail feed stores, since becoming associated with the feed industry. Additionally, it has been my pleasure to manage a group of feed stores for one of the major manufacturers. On the basis of personal observation, I can truthfully say that even in the smallest, on-the-farm selling was an important factor to success.

While engaged in the management of one feed store, with a total of three employees, including myself, we still maintained an organized outside selling program. Our truck driver helped in the warehouse and our bookkeeper did likewise, along with waiting on store trade. I personally maintained the outside selling program on a regular basis three days each week and am convinced it paid off in profit for the business. It was a vital factor in building a volume that subsequently required a staff of nine employees, earning larger profits.

At another point it was my privilege to direct the activities of two outside salesmen, each working five regular routes per week. Insofar as weather conditions permitted, all 10 sales routes were operated on a regular basis. As manager of the business it was beneficial to me to substitute for these men when vacations, illness, meetings or other emergencies necessitated their absence. Many of our customers came to the store very irregularly and some not at all. The substitution provided me with a wonderful opportunity to build an solidify our customer relations. The maintenance of such relations between management and the customer is a vital key to success in the retail feed business.

I think of another instance where two dealers with about the same volume were operating in markets of comparable size. The dealer in one market arrived at the decision his outside selling program was costing too much in relation to the volume he was doing. He discontinued outside selling on a regular basis, but continued to do some service work. He felt that he would be able to retain most of his regular business. The net result for this dealer was a substantial decline in both volume and profits, with the additional need for reducing personnel. Within less than a year this dealer had resumed his outside selling program, knowing that a rebuilding job was required.

During this same period the dealer who had continued organized outside selling showed a substantial increase in both volume and profits. He has continued this progress, and become the dominant dealer in his market. He has capitalized on a sound on-the-farm program for organized outside selling.

Outside Selling Essential

It is my personal belief that long-term success on the part of the feed merchant will be to a considerable degree contingent upon developing a strong, outside selling program. If such a plan is instituted on a limited, but regular basis, and expanded as required, costs can be maintained at a level to permit profits to the owner. If I were to again assume the management or ownership of a retail

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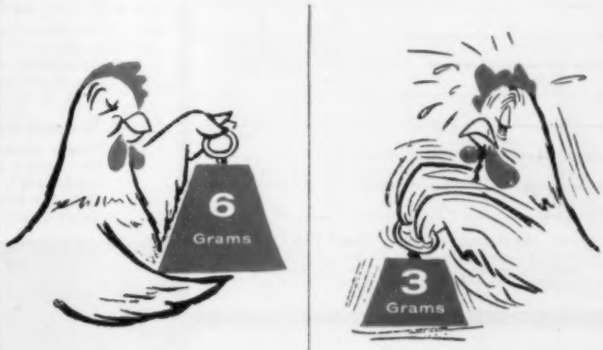

RECOMMENDED BROILER RATION

STANDARD BROILER RATION

RIBOFLAVIN MERCK

Research and Production for Better Poultry and Animal Nutrition

MERCK & CO., INC.
Manufacturing Chemists
RAHWAY, NEW JERSEY

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feed store, a temporary loss picture would be accepted in order to get such a program started. There's a pay-off far greater than can be measured on an immediate basis.

Manufacturer's Position

The question arises as to the manufacturer's position in an outside selling program. Our men have additional responsibilities beyond persuading a dealer to adopt an outside selling program. It is their responsibility to train the man selected and to work with him on a regular basis. We don't want to transfer the full load for making on-the-farm contacts to the dealer organization. We recognize that in many cases individual feeders will more readily accept the recommendations of the feed mill representative than those of the local man.

Our territory representatives have a definite assignment on farm resale calls, whether accompanied by the dealer or alone. We believe they are essential to tonnage growth and try to set an example for the dealer in this respect. Our best men spend their time in the country, not in the dealer's place of business. It is the rare man who can train another to do outside selling on a profitable basis, who is not capable of doing a good job on farm calls himself. We don't want our men to be so burdened with details that they have no time to maintain their personal selling program.

It is our feeling that by working one market per day and doing farm resale work regardless of whether or not the dealer's full cooperation has been secured, we cannot help building acceptance for our merchandise in the market area. If a market justifies distribution, it justifies the maximum amount of our salesman's time in field work. Increased business for the present dealer, or new distribution can result from full-time efforts of this type.

Another phase of on-the-farm merchandising, which in too many cases has been neglected, is concerned with the promotion of feeder meetings in suitable rural areas. The dealer's outside salesman, as well as the manufacturer's representative, can make better utilization of their time when sales efforts can be directed toward a group of prospects, rather than an individual. Meetings offer an opportunity to create interest where previous individual calls have failed. They offer an opportunity to bring customers and prospects together. The wise dealer knows that his best and cheapest sales are generally obtained on the basis of recommendations by present satisfied customers.

Successful use of feeder meetings helps to pave the way for new contacts, and helps to eliminate the need for the so-called "cold-turkey" call. Acquaintances are made and definite appointments for personal follow-up are established.

A real on-the-farm merchandising program cannot meet with maximum success without including a sound plan for feeder meetings. They go hand in hand with organized outside selling, with each being contingent on the other for final top results.

Role of Portable Grinding

In some areas where grain is readily available and where farm units are sufficiently small and close together, on-the-farm merchandising has been given an assist through the adoption of portable grinding and mixing units. The mobile unit permits the feed dealer to take both goods and services to his farm customers. This is just one more way of staking out a claim on the farmer's business. In some cases it has served to eliminate possible competition. We have a large number of these units in operation in the grain areas of the middle west, and where they have been located following careful surveys, highly satisfactory results have been obtained.

Because of the substantial investment required to put a portable unit into service, it is essential that it be kept in operation on a regular basis. If this cannot be accomplished, a loss picture can quickly develop. A careful survey should be made of each proposed location, and it is only on this basis that our men are encouraged to promote this plan with

NEW from Hess & Clark

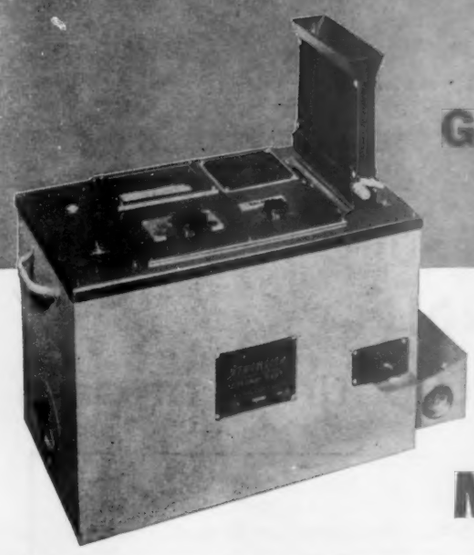
bifuran

The bonus-benefit coccidiostat

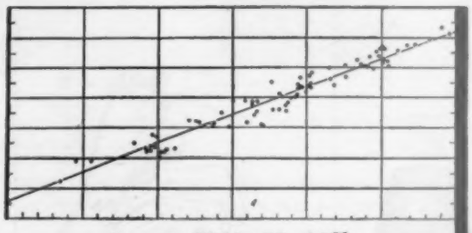
Effectively controls coccidiosis

Bifuran gives greater protection against both cecal and intestinal coccidiosis through synergistic action of two nitrofuran drugs.

NOW... make a 60 second moisture test on your GRAIN-FEED-SEED with a



new model 400G Steinlite MOISTURE TESTER



Accurate Within .25 of 1%

The extreme accuracy of the 400G Steinlite is a matter of record. Its continued reliability has been proved—with over 20,000 successful installations.

• Easier to Operate

New dial-type selector switch gives immediate readings. Built-in thermometer assures proper conversions. Handy charts convert to final determinations—all in 60 seconds.

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Newly designed and strengthened chassis—double glass meter cover—stainless steel control panel . . . all make the new 400G the sturdiest and most dependable tester available.

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By testing the whole sample, a more accurate moisture content of mixed moisture content grains can be determined.

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Now you can make tests from 1½% moisture in peanuts to 45% in corn without readjusting the instrument in any way.

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The 400G Steinlite is guaranteed to perform as advertised, or your money back . . . and against defective parts and workmanship for a full year.

"World's Leading Supplier of Grain Testing Equipment for Over 40 Years"

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Please send me full information on the New 400G Steinlite Moisture Tester for Grains, Seeds, Mixed Feeds, Nuts, Meal, Flour and many other commodities of consistent chemical and Granular nature.

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2. Promote those feeds hard
3. Back our dealers to the hilt

Get full information on Nutrena's Business Feed Dealer expansion program. Write to:

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200 Grain Exchange
Minneapolis, Minnesota

dealers. Consideration should be given to these points:

1. Financial capacity of dealer. Will an investment of this type seriously impair the dealer's other activities?
2. Number of similar competitive units operating in the trade area, and their relation to potential.
3. Accessibility to farmers of stationary grinding and mixing facilities.
4. Size of farm units in market area.
5. Availability of home grown grains.
6. Present buying habits of feeders.

If careful analysis of these and other factors reflects a favorable situation, a dealer can give a real boost to his on-the-farm merchandising program, by the addition of a portable unit.

Bulk Feed

More recently, there has been a lot of activity on another program, which could certainly be included in any discussion of on-the-farm merchandising. This has been the promotion of bulk handling of feed for the farmer's convenience. Bulk feed is being sold on a time and labor saving basis, in addition to feed cost factor. In many areas dealers have promoted bulk by helping feeders to secure and install bulk handling facilities on the farm. This has in some cases included financial assistance to the feeder.

As a company, we have perhaps been overly conservative on this program. This has been largely due to our reluctance to tie up dealer capital in equipment that could not be used on a full time basis. Now that equipment is available which permits the satisfactory use of the same truck for both bag and bulk feed, and on a reasonable basis, we can see a lot more merit to the bulk merchandising program. Since other manufacturers, and many dealers as well, have shared our opinion, we can no doubt look for further expansion of bulk facilities based on the improved equipment picture.

Farmer Is Key Factor

Whether we want to acknowledge the situation or not, the farmer himself is the determining factor in the success of any merchandising program. Furthermore, because of the ready accessibility of information from all areas, he is in a position to be critical of the dealer who does not offer services comparable to those received by feeders in other localities. Farmers are now spending more time in studying the operations of successful people in their own field, and in adapting this knowledge to their own use. The wise feed dealer will do well to do likewise, where merchandising plans are concerned. Delaying too long could result in the loss of volume to a competitor.

Most of us have been around sufficiently long enough to observe substantial changes in merchandising, not only in our own field, but most others as well. We have seen the changes in individual buying habits. We know that ideas about values have changed. As price differentials tend to become less and competitive lines reach a comparable level of value, other factors tend to determine where purchases will be made. Some of these are:

1. Physical appearance of merchandise. Is it clean, well-packaged, and fresh in appearance?
2. The service that is behind the product.
3. Courtesy of the sales personnel.
4. Personal acquaintance and confidence.
5. Convenience of purchase.

These points do not cover all the reasons for making purchases from a merchant but will be sufficient for our purpose.

We have seen a big change in grocery merchandising which has diverted the bulk of the business to supermarkets, whether they be owned by individuals or chains. This

It doesn't make sense to take a chance on the vitamin E content of your feed when it costs so little to use

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Information and prices from
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Distillation Products Industries
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OF YOUR BEEF AND DAIRY FEEDS with

RUFIS

(RUMEN) (FEED) (INOCULANT) (SUPPLEMENT)

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NATURAL LIVE RUMEN BACTERIA CONCENTRATED

INSURED for $1,000,000

. . . and STEP-UP SALES and PROFITS of your Cattle Feeds!

Feeders want feeds that convert to meat and milk f-a-s-t, and at lowest possible cost. One way you can assure top conversion for your formula feeds is to add RUFIS.

RUFIS is **THE NATURAL** rumen bacteria from fast gaining government inspected cattle stabilized and concentrated in cobalt and peptones. In recent tests a well known midwestern feeder added RUFIS to the ration of his growing calves. They gained up to 30% faster than those in test lot. Their hair became slick and glossy; digestive disturbances were practically eliminated; feeding costs were slashed almost 20%; they graded higher when marketed. PROOF—Rufis gives top results.

RUFIS IS NOT TO BE CONFUSED WITH INFERIOR ARTIFICIALLY CULTURED PRODUCTS. THERE IS ONLY ONE RUFIS. It has been thoroughly tested by leading colleges and in the feed lot for over 4 years. RUFIS IS INSURED FOR $1,000,000.

RUFIS can be fed with stilbestrol. 3 to 3½ lb. gains have been commonplace. It is easy to mix. Cost is low. PLAN NOW to add RUFIS to your Formula Feeds. Step up the CONVERSION FACTOR! Give your customers the EXTRA FEEDING RESULTS that mean EXTRA TONNAGE for you. **WRITE for complete FACTS TODAY!**

Digestive disturbances are greatly reduced and gains are stepped up when RUFIS is added to the ration of lambs and other ruminants.

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MILWAUKEE, 1100 So. Barclay Street, Milwaukee 4, Wisconsin
MINNEAPOLIS, 111—22nd Avenue, N.E., Minneapolis 18, Minn.
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NEW from Hess & Clark

bifuran

The bonus-benefit coccidiostat

Bifuran is anti-bacterial . . . keeps birds gaining in spite of vitality-sapping infections that otherwise hurt feed performance.

Fights secondary infections

LABORATORY QUALITY CONTROL
Hormones, Digestibility, Nicarbazin, Urea
Feeds, ingredients, tallow stability,
alfalfa, gossypol, nitrogen solubility
THE POPE TESTING LABORATORIES
BOX 903 Referee Service DALLAS 21, TEXAS

is true in both large and small towns. My wife buys from a particular supermarket because of the variety of well-displayed merchandise offered, the courtesy of the personnel and the convenience offered.

However, when it is a question of buying a major appliance item, her primary interest then becomes the type of service she can expect from the dealer in the event difficulties arise. She isn't particularly interested in how the merchandise is displayed or the convenience of point of purchase.

I'd be willing to wager the same is true in your own family and that different reasons will be given according to the type of merchandise.

Feed Buying Habits

The feed industry, despite the opinions of some people, has also been affected by these changing conditions. We have made wonderful technical advances in the last decade, with most information being readily available to all manufacturers. Because of this, the variation in quality of products has been less marked and competition for the farmer's patronage has steadily increased. Farmers more readily accept the value of commercial feeds but due to the large number of manufacturers and dealers, they too have formed different buying habits.

In many cases, where both dealers and feed manufacturers are concerned, survivorship of the individual business is at stake. On the assumption that many feeds are now of comparable quality, attractively packaged and readily available as to supply, it appears that the feed dealers' best methods of beating competition can be obtained from:

1. Putting a strong service program behind products.
2. Building confidence through personal contact.
3. Making it convenient for the farmer to purchase.

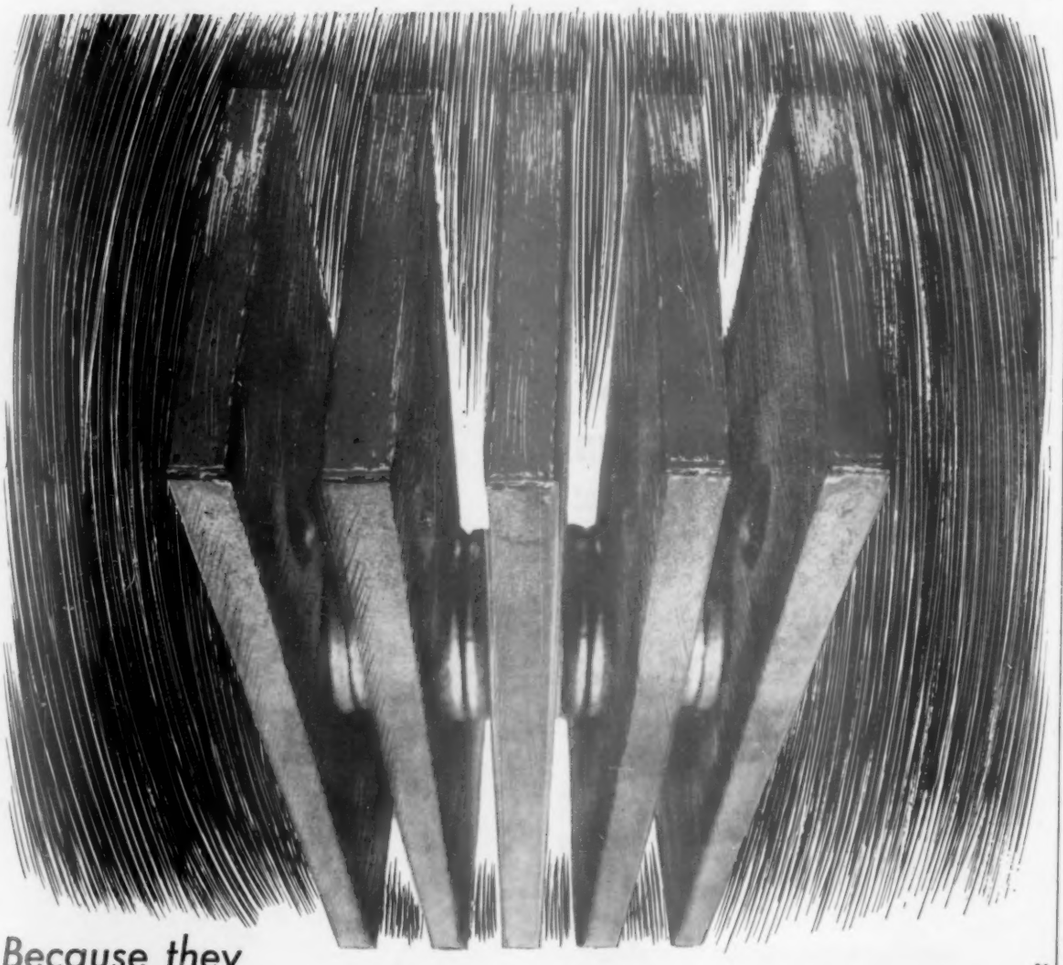
Both feed dealer and manufacturer must recognize that these objectives can be best accomplished through on-the-farm contacts. The year 1957, as well as those beyond that time, do offer a real challenge to our industry. I believe that the dealer who makes the most effective use of the previously mentioned plans for on-the-farm merchandising will acquire the largest share of the total business. A revised concept of the farmer and his requirements will certainly lend support to the need for taking your proposition to the farmer. Goods and services can both be offered more effectively at the point of use.

Canadian Industries Buys Ontario Firm

TORONTO — William Stone & Sons, Ltd., Ingersoll, Ont., a firm which for over 80 years has served the southwestern portion of Ontario, has been acquired by Canadian Industries, Ltd. Products of the Stone firm include feed, fertilizer and hide. There are also extensive rendering operations.

New president is V. B. Lillie, general manager of CIL's agricultural chemical division. Retiring president is F. H. Stone. In announcing the purchase, Mr. Lillie stated there would be no change either in the company name or its general policy. Fertilizer and feed concentrates will continue to be offered under the "National" brand, while the sales and operating departments of the company will remain unchanged.

Retiring with Mr. Stone as officers and directors of William Stone & Sons, Ltd., are A. E. Izzard, vice president; L. H. Westcott, secretary-treasurer, and R. A. Stone, general manager.



Because they cut grain... PACAL HARD-FACED HAMMER CLUSTERS* grind up to ten times longer

Pacal hard-faced Hammer Clusters last up to ten times longer and increase operating efficiency in any hammermill because they actually cut the grain. Each hammer in a Pacal cluster cuts cleanly with the force of the entire cluster. The hard-faced tips stay sharp through the entire life of the hammers. Pacal Clusters are easy to turn, easy to change and they increase screen life by 50%.

Pacal Clusters can lower your costs for any grind, in any hammermill.

*U. S. Pat. No. 2607538

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MIXED FEEDS • PELLETS
CUBES • ROLLED OATS
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FOR SAMPLES OR QUOTATIONS—
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FLAMBEAU MILLING CO.
Phillips, Wisconsin

Milk Cow Feeding Rate at New High

WASHINGTON — Farmers were feeding grains and concentrates to their milking herds on Oct. 1 at a record high rate for that date, the U.S. Department of Agriculture reports.

Poor pastures in much of the central and southern parts of the country and generally favorable dairy product-feed price relationships encouraged liberal feeding.

For the U.S., USDA's crop reporters fed a record of 5.03 lb. of grain and concentrate per milk cow on Oct. 1—4% above last year's rate and 24% above the 1945-54 average for the date. Seasonally, the quantity of grain and concentrates fed to milk cows increased 6% from Aug. 1 to Oct. 1, compared with an average gain of 8% for this period.

On Oct. 1 grain and concentrate feeding rates reached new highs in all regions except the north central states, where record quantities were fed last year by crop reporters.

The southern part of the country was feeding grain and concentrates at a considerably higher rate than the remainder of the country when compared with the Oct. 1 average.

Production of milk on farms during September totaled 9,660 million pounds, 2% above September last year. Production per cow on Oct. 1 was almost 6% above the previous high for the date.

3 Michigan Poultry Groups Elect Officers

EAST LANSING, MICH. — The election of officers by three Michigan poultry associations and the presentation of annual hatchery awards were highlights of the annual Michigan Hatchery Conference at Michigan State University here recently.

Edgar Ericsson, Blissfield, is the new president of the Michigan State Poultry Improvement Assn., an organization of more than 100 Michigan hatcheries. Al Janssen, Zeeland, was named vice president and Harry E. Hathaway, Michigan State University, secretary-treasurer. Arthur Hannah, Grand Rapids, was renamed delegate to the American Poultry & Hatchery Federation.

New president of the Michigan Turkey Improvement Assn. is Lester Soules, Jackson. He succeeds Arnell Vander Kolk, Holland. Lee Janssen, Corunna, was named vice president and Harry E. Hathaway, secretary-treasurer. Jay Van Ommen, Zeeland, was elected to the board of directors.

All of the officers of the Michigan Record of Performance Assn. were reelected. They include E. C. Foreman, Lowell, president; Henry Geerlings, Zeeland, vice president; H. C. Zindel, Michigan State, secretary-treasurer, and Arthur Hannah, Grand Rapids, delegate to the MSPIA.

"MSPIA Chick Livability Awards" were presented to the Amstutz Hatchery, Union City; Conrad's Poultry Farm, Goodells; Hess' Hatchery, St. Louis; Klager's Hatcheries, Bridgewater, and Lyon's Hatchery, Milan.

Vitamin Antibiotic
PRE-MIX
"PLUS" for swine, poultry, cattle.
Also custom pre-mixes.
Carroll Swanson Sales Co.
620 Des Moines Bldg., Des Moines, Iowa
Distributors and Sales Agents Wanted
Protected Territories.

In Canada it's . . .
N. D. HOGG, LTD.
Feed Ingredient Merchants
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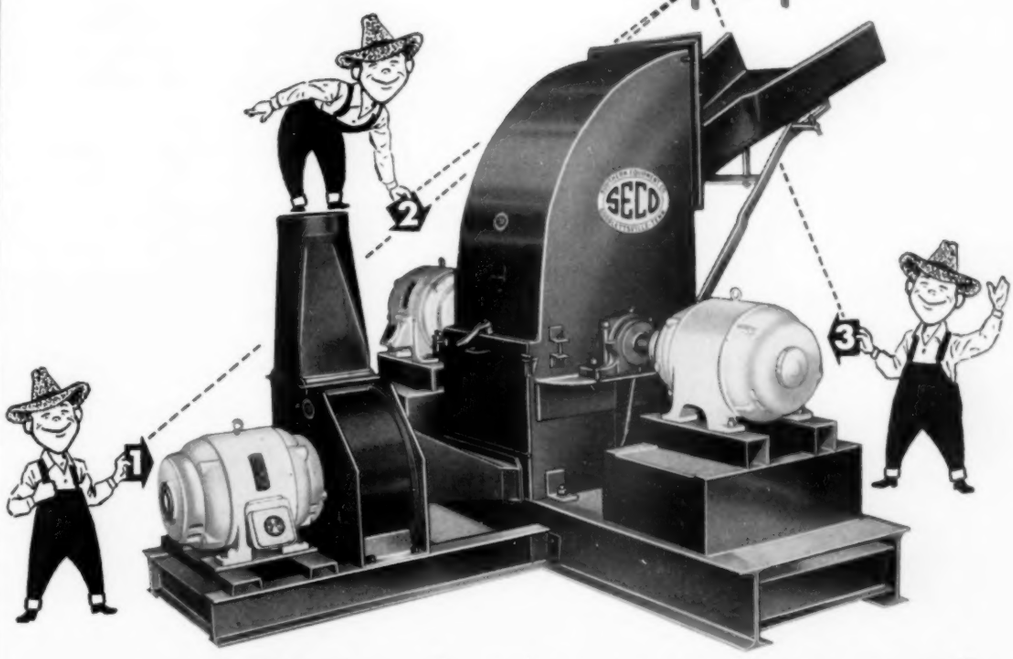
Now . . . THE SECO HAMMERMILL HAS *triple* power . . .



. . . and this is what it can mean to you!

ONLY the "Triple Powered" SECO with three separate motors—one for blower, and one at each end of main rotor shaft . . . provides these proven advantages:

Now you can REDUCE EXPENSIVE DEMAND CHARGES . . . increase overall power and capacity (especially advantageous in areas with limited power supply) . . . pay only for power you actually need for each job. SAVINGS ALONE WILL PAY FOR ENTIRE UNIT!

Install your choice of power units (from 75 to 225 h.p.). Use all three motors—or two motors—when the job is light. Avoid complete breakdown when one motor needs repairs! Have the many advantages of the "Triple Powered" SECO SUPERIOR HAMMERMILL AT A COST OF ORDINARY SINGLE UNIT HAMMERMILLS.

PLUS THESE PROVEN BUILT-IN VALUES:

- Seco "Triple Powered" Superior Hammermills come in 16-20 and 24-inch sizes.
- Mill will not slug—grain or hay stays in suspension until uniformly ground.
- Only mill with direct rear fan design—remove screen, separate fan and motor will move grains to bins for storage, etc.
- Direct rear fan design—means longer fan wear, uniform hammer and inside mill wear.
- Both drive motors controlled by automatic overload governor—when used with SECO double chain drag variable speed conveyor.
- Heavy Duty Construction—single unit electrically welded of ⅜ and ½-inch boiler plate steel.
- Removable Liner Blower—Easily accessible without removing blower pipe.
- Bigger Screen Area—41⅓-inch curved length of screen for 16-inch, 20-inch, and 24-inch models.
- Heavy Duty Steel Base—designed to stand heaviest strain—enclosed at top to prevent trash accumulation and fire hazard.
- Fast, Easy Screen Change—removable rear design to change screens without lifting mill cover or stopping motor.
- Longer Heat Hardened Hammers
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- Sealed Self-Aligning Bearings
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SECO has everything for every feed mill! Let SECO engineering service design your new mill or redesign your present mill without obligation. We supervise installation of SECO equipment without charge, upon request. Make your installation now, and be ready for extra profits! **WRITE FOR COMPLETE DETAILS TODAY!**

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Now a report to beef producers on how

SCIENCE COMES TO THE FARM IN A FEED BAG

The message on the facing page (now appearing in farm magazines) addresses itself to a segment of the farm market you want especially to reach.

It tells about new ways to make extra gains in a field where feed science is making some of its biggest gains—a branch of livestock feeding where the feed industry, as well as feeders, stands to profit and progress a great deal faster in the future.

And it helps to pave the way for your own scientifically balanced formula feeds by showing how they're proved out under practical feed-lot conditions. Beef Project 57 is given as an example because it is one of the biggest mass demonstrations ever undertaken to show the many advantages of formula feeds for beef over straight protein supplements.

It's the kind of activity that makes news,—alerts feeders everywhere to what's new and what's next from the feed industry.

Pfizer

Chas. Pfizer & Co., Inc.
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World's largest producer of antibiotics

THEY'RE BEEFING UP

YOUR BEEF FEEDING PROFITS

Sioux City, Iowa—How feeders everywhere can make even greater reductions in their cost of producing beef in 1957 is now being proved out in a 57 county surrounding area.

Called "Beef Project 57", this is a three-way cooperative program between Pfizer, feed manufacturing companies and feeders to demonstrate the best practical application of new scientific developments in beef feeding from many sources.

These new developments have been coming so thick and fast that few feeders have been able to keep up with all of them.

On one thing everybody agrees: A good supplement can stretch grain and help feeders make greater use of low-quality roughages in producing choice quality beef.

The big question has been, what—besides protein—should a good supplement supply, and in what combination and amounts to make the most dependable and economical gains?

In the last couple of years, for example, many feeders have been getting excellent results by using stilbestrol. More recently others have reported even better results with Terramycin. *But when the two were combined in the same supplement the extra gains and savings in feed were greater than with either supplement alone.*

New knowledge of the way dozens of different feed ingredients *work together* has made the older single-purpose supplements as old fashioned as the longhorn. It has shown the importance of a supplement combining the right amounts of several growth and health-boosting ingredients.

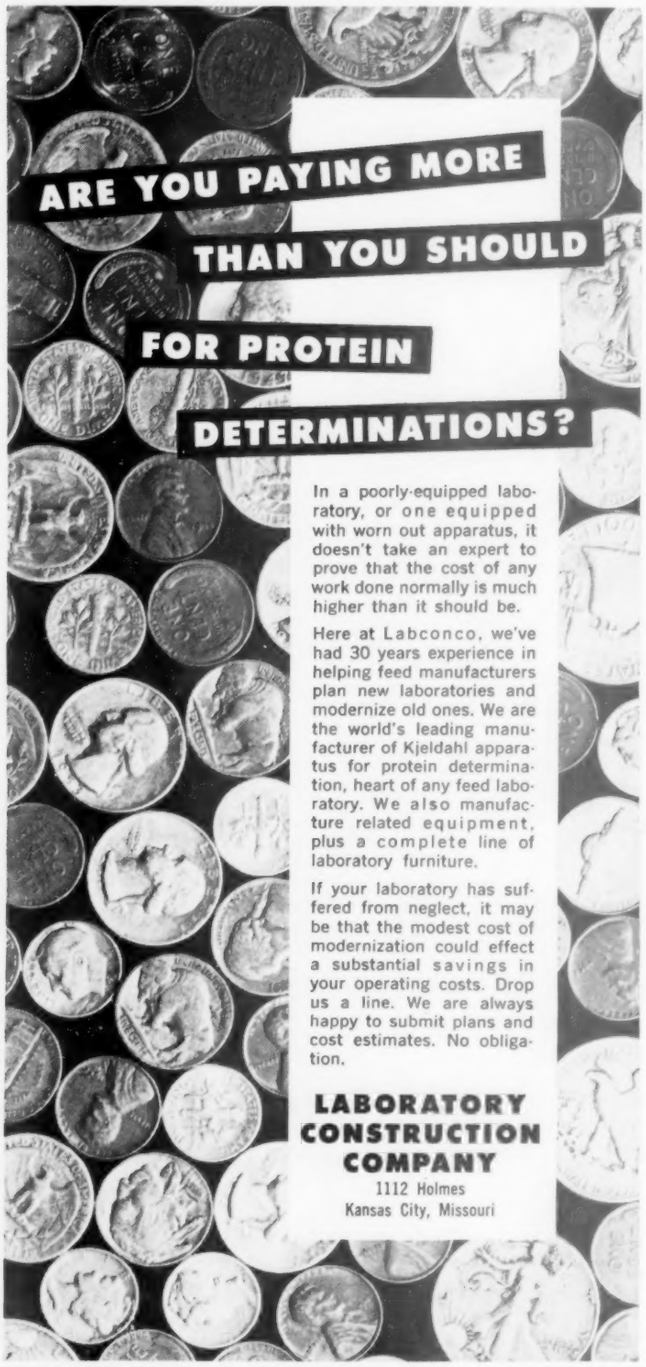
Beef Project 57 is now proving out the best combinations for the feeds of the future—along with the facts and figures on how you can fit them into your own feeding-for-profit program *this year!*

Science Comes to the Farm in a Feed Bag

Pfizer

Pfizer Agricultural Research and Development Department

Your customers will read about new developments in beef feeds during November and December—in Farm Journal, Successful Farming, Farm Quarterly, Better Farming Methods and County Agent and Vo-Ag Teacher.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In a poorly-equipped laboratory, or one equipped with worn out apparatus, it doesn't take an expert to prove that the cost of any work done normally is much higher than it should be.
Here at Labconco, we've had 30 years experience in helping feed manufacturers plan new laboratories and modernize old ones. We are the world's leading manufacturer of Kjeldahl apparatus for protein determination, heart of any feed laboratory. We also manufacture related equipment, plus a complete line of laboratory furniture.
If your laboratory has suffered from neglect, it may be that the modest cost of modernization could effect a substantial savings in your operating costs. Drop us a line. We are always happy to submit plans and cost estimates. No obligation.
LABORATORY CONSTRUCTION COMPANY
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Turning Points in Livestock Output Improve Price Outlook

URBANA, ILL.—The livestock situation is rounding some major turning points, and the price outlook is brighter, a University of Illinois agricultural economist points out.

Prof. L. H. Simerl noted that the production of meats, which has increased each year for five years, is leveling off and will soon decline.

While meat output is leveling off, he said, population and consumer income are continuing upward. Prices of meat animals were extremely depressed during most of the past 12 or 18 months. Now that production is lower, prices have improved considerably, and further improvement is likely during the next several months.

If employment in cities is maintained at high levels, livestock prices may well remain above recent lows for a few years, Prof. Simerl said.

Beef production increased most and leveled off first. Prof. Simerl explained that beef output comes in long waves or cycles, running several years from one peak to the next. Output reached a peak in 1946, declined to a low in 1951, and then reached another and much higher peak during the past 12 months. The increase from the low in 1951 to the present high is about two thirds.

As beef production leveled off, prices increased sharply. Average prices of choice steers at Chicago went up from $20.70 cwt. last May to around $27 in September. At the September level, prices were about $5 higher than a year earlier.

"Part of the increase in prices of fat cattle was a normal or typical seasonal spring-to-fall rise," Prof. Simerl said. "But it was much more than that. It also reflected a general recovery from the extremely depressed prices prevailing through 1955 and the first half of 1956. Even prices of cheap cattle, which normally decline about 20% from spring to fall, went up about 15% from May to September this year.

"No further increase in beef production is now in sight unless farmers and ranchers sell a lot of cows and heifers for slaughter. Total slaughter may hold near the levels of recent months, or even increase slightly, but average weights will surely be smaller."

Pork production, which runs in four- to six-year cycles, also peaked out during the past 12 months, Prof. Simerl pointed out. This was the first time in history that the peaks of pork and beef supplies came at the same time.

Federally inspected pork output reached a peak of 1⅓ billion pounds last December, 39% more than two years before. Pork output declined seasonally during the first half of this year, but total production was one fourth greater than two years before.

These unprecedented increases in beef and pork supplies forced lower retail prices and allowed marketing margins to increase, Prof. Simerl said. Both of these developments, he said, cut sharply into prices of cattle and hogs.

However, as beef supplies leveled off during the late summer, prices of cattle advanced sharply. A similar improvement in hog prices is likely during the year ahead. Some normal seasonal decline is likely during October and November, but prices will probably average considerably higher during the next 12 months than they did a year earlier.

National Alfalfa Sells Rupert, Idaho, Plant

RUPERT, IDAHO—The National Alfalfa Dehydrating & Milling Co. has sold its alfalfa dehydrating plant here to the Idaho Alfalfa Products Co.

The new owners are L. D. Warren and Norman Warsinske, both of Billings, Mont. Mr. Warren will be in active charge of the business. His partner, Mr. Warsinske, is publisher of the Western Livestock Reporter at Billings and also owns the Western Ranch Supply Co. there.

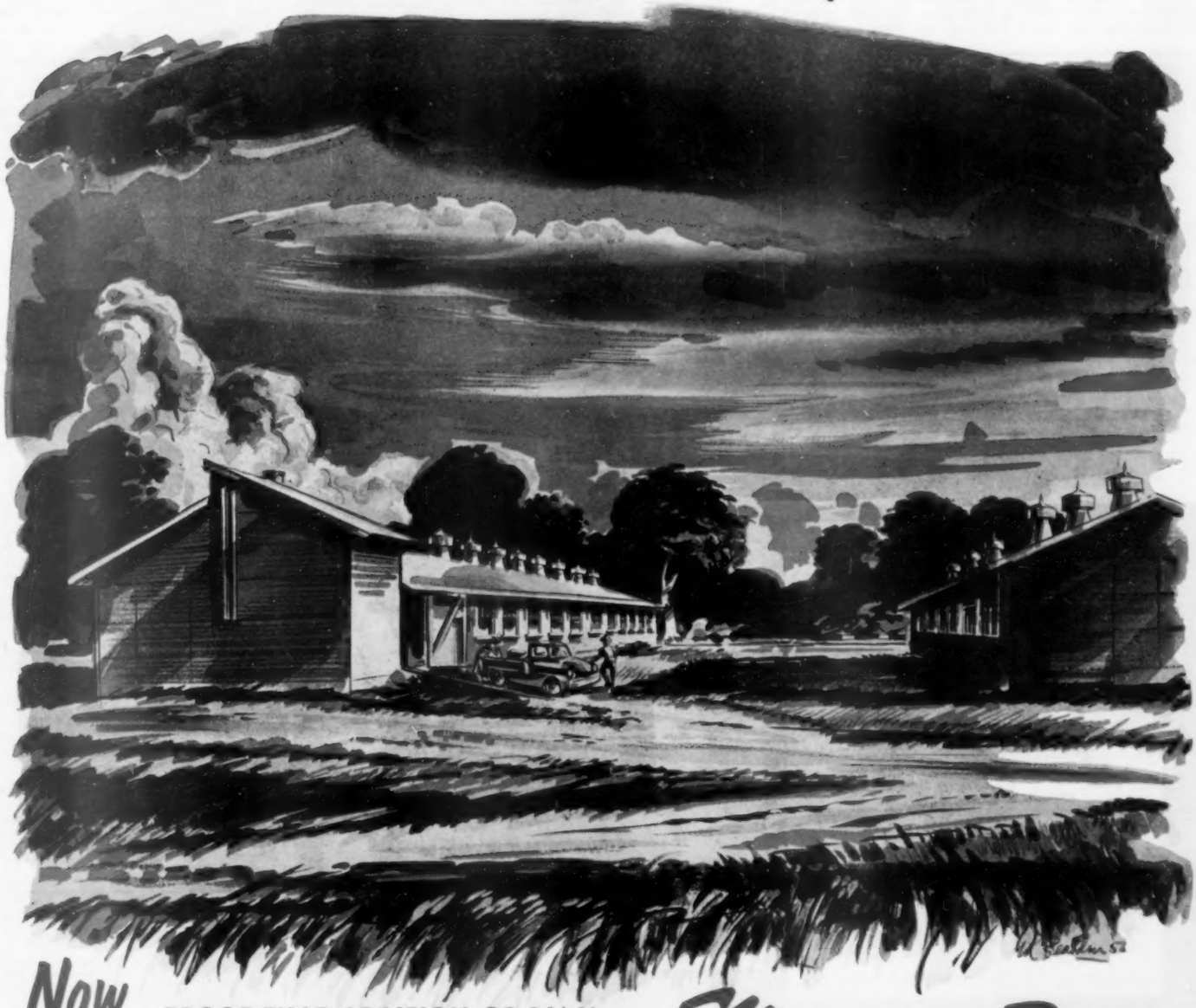
Due to a late start this fall, the firm will operate on a limited basis this winter, dehydrating and manufacturing alfalfa meal and pellets. Next year the owners say they plan to operate the plant at capacity with a crew of up to 12 men.

Later the new firm plans to enter the custom grinding field. The property purchased from National includes the plant, warehouses and other buildings on three acres of land. The balance of the National property was sold to Cecil Brim for the Rupert Livestock Commission Sales Yard.

Jim Reyher, manager for National Alfalfa here for the past two years, will be transferred to one of the company's other plants.

SPROUT-WALDRON
Deluxe
COLDMIX
with the
Big Plus
Assures highest quality molasses-mixed feeds
COLDMIX is outstanding in mixing large volumes of cold molasses to pre-mixed feeds without heating. Molasses can be precisely metered. Lumps are eliminated. Removable front panel provides instant accessibility . . . reduces cleaning time. Capacities: 5 to 20 tons per hour.
You'll make more than fine quality molasses feeds with this unit. You'll also make more money, because Sprout-Waldron's BIG PLUS in engineering guidance on installation and applications . . . plus finest workmanship and service . . . plus 100% reliability assure the utmost in savings. Write for Bulletin 121.
Blends cold molasses into not just on the feeds
Specially developed, scientifically designed high-speed agitator definitely beats molasses into every particle of feed. This minimizes the problem of feed setting up in the bags during storage, provides the driest possible feed per percentage of molasses added . . .
SPROUT-WALDRON
The Best in Milling Equipment Since 1866
61 LOGAN STREET • MUNCY, PA.
Exclusive Canadian Distributors: Strong-Scott, Limited, Winnipeg
PELLET MILLS • HAMMER, ROLLER, ATTRITION, AND BURR STONE MILLS • MIXERS • SCREW, BELT, AND PNEUMATIC CONVEYORS • BUCKET ELEVATORS • CUTTERS, CRUSHERS, AND FEEDERS • REELS, SEPARATORS, AND ASPIRATORS • BULK FEED TRUCKS • A. O. SMITH PERMAGLAS STORAGE UNITS
BUHLER BROS. FLOUR MILLING EQUIPMENT
FE/446

And now....five cents more per Broiler!



Now...PROOF THAT ADDITION OF 1½% MARCOL B-75 TO MODERN FEED HELPS BROILERS GROW BIGGER . . . FASTER . . . DELIVERING UP TO FIVE CENTS MORE PER BROILER.

A high energy fat supplement, Marcol B-75 reduces the amount of feed needed to produce a pound of meat . . . and cuts days off growing-time.

Marcol B-75 helps broilers to grow. Tests at Texas A&M College have proven that Marcol B-75 is 12% more digestible than high quality animal fats. This means broilers convert feed-to-meat more easily.

Marcol B-75 speeds-up growth. In actual commercial production where 1½% Marcol B-75 was added to rations, broilers averaged in excess of three pounds in slightly over eight weeks. Over 41 pounds of meat were consistently produced per 100 pounds of feed.

Marcol B-75 is more palatable. Preference tests in the field and at experiment stations have shown time and again that broilers choose feeds with Marcol B-75 added.

Marcol B-75 assimilates better than animal fats, doesn't "ball-up" in feed. And being a liquid fat, it lays dust better.

Marcol B-75 is laboratory tested in each stage of production . . . constantly maintained quality control.

MADE EXCLUSIVELY BY

MARCO CHEMICAL CO.
FORT WORTH, TEXAS

Marcol B-75

a miracle of modern agricultural science — developed by the Marco Chemical Company — designed to accomplish many jobs in one.

1. MORE POUNDS ON LESS FEED
2. PRODUCTION TIME CUT BY DAYS
3. GREATER PALATABILITY
4. ASSIMILATES BETTER
5. LAYS DUST.

LET US SEND YOU PROOF THAT MARCOL B-75 INCREASES BROILER INCOME!

MARCO CHEMICAL CO., P. O. Box 8, Fort Worth, Texas
Please send me a FREE SAMPLE of MARCOL B-75.

Firm Name_____

Address_____

City_____ State_____

Attention of_____

Atkinson Mill Hit By Dust Explosion

MINNEAPOLIS—A dust explosion at the plant of the Atkinson Milling Co., Minneapolis, on Oct. 12, destroyed a cupola above the sixth floor. A workman was hurt but his injuries were not serious. Damage was of a minor nature.

Operations were only temporarily suspended when the workers left the building as a safety measure. The explosion was accompanied by a flash of flame but no fire occurred, though firemen made a thorough inspection of the affected area as a precautionary measure.

The blast blew off the corrugated metal roof of the cupola and scattered sections of metal on the ground. Other sections were torn off the wall and off the gallery, a conveyor housing bridging the main building to a string of concrete storage bins. Windows in the gallery were also shattered.

Martin Nelsen, president of the company, says the cause of the explosion has not been ascertained.

GRAIN COMPANY SOLD

JERSEYVILLE, ILL. — Marion Beach, president and manager of the Beach Grain Co., Inc., has announced the sale of his controlling interest in the company. The new majority stockholders are L. B. Coppernoll and his son, Keith Coppernoll of Shannon, Ill. The senior Mr. Coppernoll has been manager of the S. C. Bartlett Elevator Co. in northwestern Illinois.

MORE WHEAT LAND PUT IN SOIL BANK

WASHINGTON — Winter wheat land committed to the 1957 crop soil bank program has now passed the 9 million acre mark. U.S. Department of Agriculture officials now see the total as certain to exceed 11 million acres, when all returns are in. This estimated total indicates to USDA officials that when the spring wheat crop acreage is added to that of winter wheat, the 1957 acreage reserve program will remove approximately 15 million acres of wheat land from production.

Economists See Hog Prices 10 to 20% Above Year Earlier

ST. PAUL — University of Minnesota agricultural economists say they expect hog prices this fall and winter to average 10 to 20% higher than at the same time last year.

Farmers are expected to market about 10% fewer hogs for the rest of this year than they did in the same period a year ago.

Hog prices should hit a normal season low in November or December and strengthen after the end of the year, the economists say. By spring of 1957, hog prices should be about 20% above prices for spring of 1956.

The 1956 spring pig crop was 8% less than a year earlier, and the fall pig crop this year is about 9% less than in 1955. The economists expect a moderate decrease in 1957 spring farrowings.

It also is noted that consumers are demanding more meat-type pork, resulting in more emphasis on topping hogs out for the market at 200 to 220 lb.

With more early spring farrowings, the seasonal price peak is moving up from August-September to July-August, the economists point out. This has been a marked trend in the past three years.

NEW from Hess & Clark

bifuran

The bonus-benefit coccidiostat

Has wide safety margin

Bifuran is non-toxic . . . safe even if accidentally fed to layers and breeders . . . can be fed to broilers right up to marketing.

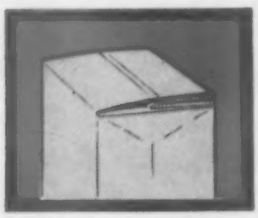
B-6

New Developments at A&S

THE TILTED VALVE BAG

This new closure was developed by one of our customers to prevent sifting of fine materials, and is now offered on standard A & S bags without upcharge. The Tilted Valve is a must for the fertilizer and rock products industries, which have long been seeking a multiwall bag combining an automatic closure with a positive, sift-proof seal.

THE ARKTITE BAG

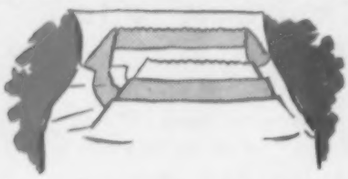


The new A & S Arktite Bag is not only sift-proof and tamper-proof, but also capable of standing upright on packing lines and shelves. It has thermoplastic seals throughout and liners of paper, film or foil.

THE ZIP-TOP MULTIWALL BAG

Already a favorite with multiwall users from coast to coast, the A & S Zip-Top is typical of the trend-setting features you find on our bags. This new easy-opening construction is available on any A & S multiwall at no extra cost.

THE STEP-FLEX BAG



A new multiwall bag soon to go into production. It is triple-sealed top *and* bottom with the unique Step-Flex closure, forming a sift-proof barrier against product loss or contamination. This new closure provides three multiwall layers, staggered and pressure-glued both ways in overlapping fashion.

OTHER POPULAR A & S BAGS

SUPER-RUFF— non-slip bags

LAMO-PAK— moisture barrier bags

LOCK-RITE— sealed valves

DUK-PAK— sheds water

To get the whole A & S bag story — particularly as it applies to your own products — we suggest that you write directly to Arkell & Smiths, Packaging Division, Canajoharie, New York.

ARKELL AND SMITHS

Executive Offices: 500 Fifth Ave., New York 36

Manufacturing Plants at:

Canajoharie, N. Y. • Wellsburg, W. Va.

Mobile, Ala. • Hudson Falls, N. Y.

"The Oldest Name in Paper Bags"

COMBO JR. WATERER

Big cap. Cast Iron W or w/o elec. heat. Salesmen wanted. Only $6.37 up.

EHRHEHART CO. Ft. Wayne, Ind.

COLUMBIA SOFT PHOSPHATE

IMMEDIATE DELIVERY LOW COST

WRITE FOR INFORMATION

Columbia Phosphate Co.

1807 Washington St. Louis, Mo.

COLUMBIA PHOSPHATE CO. PHOSPHATE PRODUCTS

MOVING?

If you are moving, tell us about it, won't you? Your weekly copy of Feedstuffs will not follow you unless we have your new address right away. Make sure you don't miss a single important issue . . . and help us make the correction as quickly as possible by giving us your old address too.

FEEDSTUFFS

2501 Wayzata Blvd.

Minneapolis 5, Minn.

WHAT'S NEW WITH VICTOR THIS MONTH?

VICTOR PLANNED PROMOTIONS STRONG ADVERTISING

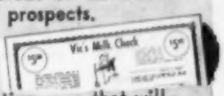
will make you the **Biggest FEED DEALER** in TOWN!

THESE ARE JUST A FEW:

GRAND OPENINGS

A Treasure Chest idea that will crowd your store with hundreds of customers and real "live wire" prospects.

MILK CHECKS



A Dairy Feed promotion . . . that will bring you the cream of the Dairy Feed business in your expanded area.

HOG FEED MAILER

. . . that gets buyers' attention and has proved many times that it builds Hog Feed volume in a great BIG way.

CREEP FEED PROMOTION

Tells cattle feeders how they can save money and still "top the market" with their healthy calves.

POULTRY FEED COURTESY CARD PLAN

Offers poultry raisers an important savings on VICTOR Poultry Feeds — and costs YOU nothing, absolutely nothing.

CATTLE FEED CONTEST PROMOTION

Saves cattle feeders money on Cattle Feeds — you make the full profit — and it carries a big prize incentive, too.

EVERY MONTH - 12 MONTHS A YEAR - VICTOR DEALERS HAVE VICTOR PROMOTIONS . . . THAT BUILD STORE TRAFFIC - THAT SELL MORE OF EVERYTHING . . . IN VICTOR DEALERS' STORES

Here are just a few of the exciting VICTOR PLANNED PROMOTIONS that are making new VICTOR feeders by the scores in area after area. VICTOR year 'round PLANNED PROMOTIONS . . . PLUS VICTOR consistent and dominating advertising in leading Farm Papers, Feeder Publications and over the Radio — are a customer traffic-getting combination that offers VICTOR dealers the greatest sales-building and profit-making opportunity in years! There's *nothing — absolutely nothing* — like it in the entire feed industry.

AND WITH VICTOR FEEDS *YOU SELL*

COMPLETE FEEDING PROGRAMS

When you sell VICTOR FEEDS — you sell MORE than VICTOR proved-on-the-farm QUALITY FEEDS.

You sell *complete feeding programs* — developed by foremost poultry, hog and cattle feeding authorities.

You furnish your VICTOR feeders with the latest research and information on poultry, hog and cattle breeding, health control, management procedures and feeding. The results . . . are VICTOR feeders that make extra profits — that are VICTOR feeders from start to finish — that tell their friends to buy VICTOR FEEDS from YOU!

✓ FILL IN THE COUPON BELOW . . . NOW!

Get the BIGGEST news in the feed industry today. Learn why VICTOR dealers are establishing new highs in sales and profits. What they are doing — YOU CAN DO . . . AS A VICTOR DEALER. So — mail the coupon — NOW. Of course — there's no obligation.

THE CRETE MILLS

LOOK TO VICTOR

FOR THE BIGGEST MONEY-MAKING FEED OPPORTUNITY IN YEARS!

A Division of Lauhoff Grain Company CRETE, NEB.

VICTOR FEEDS

THE CRETE MILLS, CRETE, NEBRASKA

Gentlemen: Please send me more information about your VICTOR sales-building, profit-making feed dealer program.

NAME _____

CITY _____

STATE _____

Blackstrap Molasses BETTER FEEDING QUALITY Since 1918 SERVICE

SYMBOL

of Dependable Service

For nearly four decades we have built a reputation for dependable service to the feed industry . . . a reputation based on prompt shipments of top quality molasses at lowest prices.

Why not contact us about your molasses requirements? We welcome the opportunity to serve you.

NATIONAL MOLASSES COMPANY

Executive Offices: ORELAND, PA. Phone: Livingston 8-5900 (PHILA.)

WIN CONTEST—Winners of the recent Peebles' Whey Block's point-of-purchase merchandising contest, sponsored by Western Condensing Co., Appleton, Wis., are Mr. and Mrs. Hershel G. Smith, owners of the Flora Hatchery of Flora, Ill. They are shown above with Western's assistant feed products sales manager, Charles E. Martin (right), who presented an automatic electric rotisserie as first prize.

W. N. Howard, Retired Wirthmore Man, Dies

SPRINGFIELD, MASS. — William N. Howard, 69, retired supervisor for Wirthmore Feeds, died unexpectedly at his home here recently.

Mr. Howard was born in Hardwick, Mass., and received his early education in that town. Following a period with J. P. Harland & Son in Worcester, he went into partnership with his father, Dwight, and brother, Samuel, in the grain and coal business with stores in Ware, Hardwick and Coldbrook. In 1911 he became manager of the Ware store.

Following the death of their father, the sons continued the business until 1930 when its assets were sold to the Chas. M. Cox Co. Mr. Howard came to Springfield for the firm to operate the former Potter Grain Co. Later he became supervisor in the western Massachusetts and Connecticut division for Wirthmore with headquarters in Greenfield. He developed the territory into one of the most important in the Wirthmore operation. He retired in 1952.

He is survived by his widow.

"Why Portable Mills Make Money"

A complete modern mill on wheels. Grinds farmers grain. Mixes with concentrates and molasses right on farm. Here are four major reasons why JAY BEE ALL-IN-ONES make money.

1. Farmers want the convenience of on-the-farm grinding service as it saves time and labor.
2. No business ups and downs. Mill works every day whether farmers are busy at home or not.
3. Eliminates competition of farmers home grinding. Saves scarce labor.
4. A milling advertisement for your feed business gets the salesman right out on the farm with customer service. He develops sales of other bag feeds. Increases concentrate sales.

JAY BEE "ALL-IN-ONE" FEEDMAKER BEATS THEM ALL

New Model Jay Bee "All-in-One" Portable Feedmaker — "The Complete Feed Mill on Wheels" — recently bought by D. C. McKnight, Enon Valley, Pa.

Just think of it! Not just a mobile grinder but a complete modern feed plant on wheels. That's the JAY BEE ALL-IN-ONE. Designed to give maximum service right on the farm. Note these features:

- High capacity for fast production—8 to 10 tons per hour.
- Hydraulic auger for quick bulk unloading.
- Air system for removing dirt and chaff from feeds.
- Deliver bulk or sacked.
- Special mixer design for positive unloading.
- Handles roughage with 20" width industrial type hammermill.
- Unique molasses handling system.

WHAT OWNERS SAY ABOUT JAY BEE MILLS:

"For my money, the Jay Bee 'All-in-One' Feedmaker is the best." —Aaron Morris, Morris Feed Mill, Purvis, Miss.

"A real moneymaker for us."—Charles W. Adams, Adams Brothers Feed Service, Smithfield, N.C.

"Because of the speed of our grinding service, our customers have doubled."—Walter R. Beck, Beck Grain & Feed Co., Shelbyville, Ind.

ALSO NEW—JAY BEE CORNSHELLER

Specially Designed for Mobile Use

CLIP AND MAIL FOR FULL INFORMATION

J. B. SEDBERRY, INC., DEPT. F, FRANKLIN, TENN.

Please send me full information on JAY BEE All-In-One Feedmaker.

NAME .....

COMPANY .....

STREET .....

CITY ..... STATE .....

with DEMON Steamed Rolled Oats

CUSTOMERS CAN SEE ALL THE OATS!

WRITE TODAY FOR PRICES

DES MOINES OAT PRODUCTS CO.

2000 E. Grand Ave. Des Moines, Iowa

...before it TALKS

...is the way our doctors put it—"Our chances of curing cancer are so much better when we have an opportunity to detect it *before it talks.*"

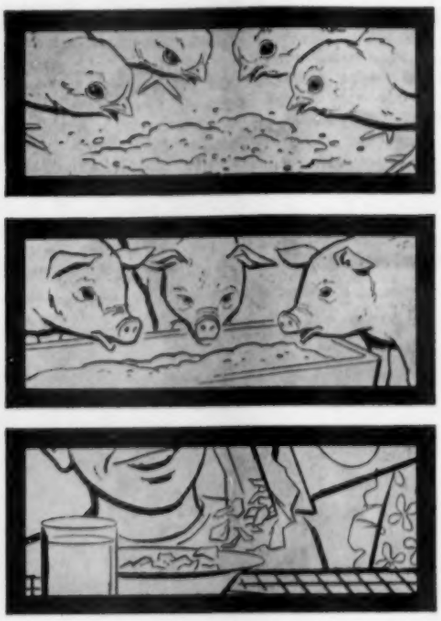
That's why we urge you to have periodic health check-ups that *always* include a thorough examination of the skin, mouth, lungs and rectum and, in women, the breasts and generative tract. Very often doctors can detect cancer in these areas long before the patient has noticed any symptoms.

For more life-saving facts phone the American Cancer Society office nearest you, or write to "Cancer"—in care of your local Post Office.

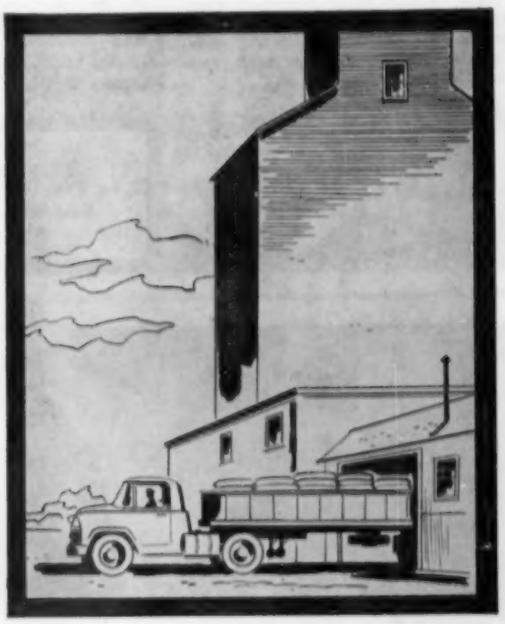
American Cancer Society

Now...better than ever!

Prevents rancidity, keeps feed palatable



Approved for poultry, animal, and human foods



Protects vital nutrients, from mill to customer

FREE-FLOWING **VIANOL®** **BHT**

The feed antioxidant you can really depend upon

Now Vianol® BHT is better than ever. The new, *finer* mesh quality makes it even more effective as a free-flowing antioxidant. You get low-cost protection against hidden oxidation with no undesirable side effects. You can use it with confidence.

In minute crystalline form, this antioxidant is non-electrostatic and easy to use as a dry blend, or you can apply it in an oil base. Either way, you get uniform protection with a minimum of mixing time.

AND Vianol BHT gives these additional advantages:

- Stabilizes vitamins A, D, E . . . the essential nutrients so often lost in processing and storage
- Helps maintain pigmentation for long periods
- Supplements vitamin E—protecting against encephalomalacia (crazy chick disease)
- Simple to use . . . will fit your present mixing operation

Free-flowing Vianol BHT continues to set the standard for the feed industry. For latest technical information, contact your local Bowman Feed Products representative.

VIANOL® A SHELL CHEMICAL PRODUCT

SHELL

(2,6-di-tert-butyl-4-methylphenol)

***Distributed by* BOWMAN FEED PRODUCTS INC., 130 Central Ave., Holland, Michigan**

CONVENTION CALENDAR

Nov. 2 — Ohio Animal Nutrition Conference; Ohio State University, Columbus, Ohio; chm., W. J. Tyznik, Department of Animal Science.

Nov. 6-8 — Minnesota Poultry Hatchery Assn.; Hotel Radisson, Minneapolis; sec., L. L. Baumgartner, Litchfield, Minn.

Nov. 8-9—Cornell Nutrition Conference for Feed Manufacturers; Statler Hotel, Buffalo, N.Y.; chm., Prof. G. F. Heuser, Rice Hall, Cornell University, Ithaca, N.Y.

Nov. 8-9—Florida Nutrition Conference; University of Florida Agricultural Experiment Station, Gainesville; John P. Feaster, University of Florida, Gainesville.

Nov. 12-13—Missouri Feed Conference; Memorial Union Bldg., University of Missouri, Columbia; chm., Dr. W. H. Pfander, Mumford Hall, University of Missouri, Columbia, Mo.

Nov. 14-15—Illinois Feed Assn. and Illinois Poultry Improvement Assn., joint meeting; Armory, Leland Hotel (IFA) and St. Nicholas Hotel (IPIA), Springfield, Ill.; sec., IFA, Dean M. Clark, Board of Trade Bldg., Chicago, Ill.; sec., IPIA, Aubrey Harless, Box 91, Shelbyville, Ill.

Nov. 16—School for Poultry Servicemen in Feed and Allied Industries; College of Agriculture, Rutgers University, New Brunswick, N.J.; chm., C. S. Platt, Poultry Department.

Nov. 18-19—Tennessee Feed Manufacturers Assn.; Hermitage Hotel, Nashville, Tenn.; sec., Wendell H. Levine, 200 Baxter Bldg., Nashville.

Nov. 19-20—Western Grain & Feed Assn.; Fort Des Moines Hotel, Des Moines, Iowa; exec. sec., Mark G. Thornburg, 928 Des Moines Bldg., Des Moines 9, Iowa.

Nov. 23-24 — American Society of Animal Production; Hotel Sherman, Chicago; sec., W. M. Beeson, Dept of Animal Husbandry, Purdue University, Lafayette, Ind.

Nov. 26-27—American Corn Millers Federation; Drake Hotel, Chicago; sec., Harry Hunter, 173 W. Madison St., Chicago 2, Ill.

Dec. 3-4—Farmers Elevator Assn. of South Dakota; Huron, S.D.; sec., C. C. Anderson, 423 Citizens Bldg., Aberdeen, S.D.

Dec. 3-5—Midwest Feed Production School, Muehlebach Hotel, Kansas City, Mo.; sponsored by Midwest Feed Manufacturers Assn.; Lloyd S. Larson, executive vice president, 20 W. 9th St. Bldg., Kansas City, Mo.

Dec. 6-7—Washington Animal Industry Conference; Western Washington Experiment Station, Puyallup, Wash.

Dec. 6-7—North Carolina Animal Nutrition Conference; North Carolina State College, Raleigh, N.C.; chm., George Wise, Animal Nutrition Section, North Carolina State College, Raleigh, N.C.

1957

Jan. 7-8 — Kansas Formula Feed Conference, Kansas State College, Manhattan; chm., F. W. Atkeson, head of department of dairy husbandry, Kansas State College, Manhattan.

Jan. 8-10 — National Turkey Federation, Cincinnati, Ohio; exec. sec., M. C. Small, P.O. Box 69, Mt. Morris, Ill.

Jan. 11-12—Kansas Seed Dealers Assn.; Hotel Broadview, Wichita, Kansas; sec., O. E. Case, 901 Wiley Bldg., Hutchinson, Kansas.

Jan. 13-15—New Mexico Grain & Feed Dealers Assn.; Hilton Hotel, Albuquerque, N.M.; exec. sec., H. B. Hening, P.O. Box 616, Albuquerque, N.M.

Jan. 14-15—Northwest Retail Feed Assn.; Hotel Nicollet, Minneapolis; sec., W. D. Flemming, 112 Grain Exchange Bldg., Minneapolis 15, Minn.

Jan. 14-16—Conference on Processing of Cottonseed Meal as Related to Its Nutritive Value; Southern Utilization Research Branch, U.S. Department of Agriculture, 1100 Robert E. Lee Blvd., New Orleans, La.; chm., Dr. A. M. Altschul, Southern Utilization Research Branch, 1100 Robert E. Lee Blvd., New Orleans 19, La.

Jan. 20-22—Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indianapolis; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis 4, Ind.

Jan. 22-23—North Dakota Poultry Industries Convention; Elks Club, Fargo, N.D.; Irving J. Mork, North Dakota Agricultural College, State College Station, Fargo, N.D.

Jan. 23-24 — Massachusetts Dairy Farmers Seminar; University of Massachusetts, Amherst, Mass.

Jan. 24-26—Boston Poultry Show and New England Poultrymen's Conference; Mechanics Bldg., Boston; chm., Dr. Alfred Van Wagenen, Northeastern Poultry Producers Council, 10 Rutgers Place, Trenton, N.J.

Jan. 28-30 — Southeastern Poultry & Egg Assn.; Dinkler-Plaza Hotel, Atlanta; exec. sec., J. Paul Williams, 615 E. Franklin St., Richmond 19, Va.

Jan. 30-Feb. 2—American Dehydrators Assn., Edgewater Gulf Hotel, Edgewater Park, Miss.; exec. vice pres., Joseph Chrisman, 430 Board of Trade Bldg., Kansas City, Mo.

Jan. 31-Feb. 1—University of New Hampshire Poultry Health Conference; University of New Hampshire, Durham, N.H.; chm., Prof. W. C. Skoglund, Poultry Dept.

Feb. 4-6—Assn. of Southern Agricultural Workers, Birmingham, Ala.

Feb. 7-8—Oregon Animal Industry

BRYANT CORN SHELLERS

. . . efficiently, economically and quickly shell and clean the corn in one time and labor saving operation . . . *like putting money in the bin!*

SMALLER CAPACITY MODELS HANDLE 150 to 200 and 400 to 600 BUSHELS PER HOUR.

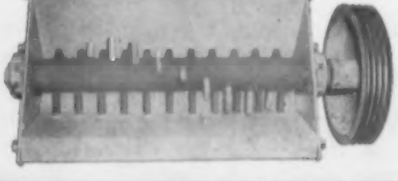
BRYANT No. 30 CORN SHELLER WILL PRODUCE FROM 800 to 1,000 BUSHELS OF SHELLED CORN PER HOUR . . . machine picked corn.

This high capacity, low maintenance sheller provides grain elevators with a fast, efficient and compact machine.

Shelled corn is discharged and cleaned the entire length of the shelling cylinder. Powerful suction is placed on the shelled corn by means of the large air trunk running from the eye of the fan to the shelled corn discharge point. Here, the shelled corn and any foreign material it may contain, drops into the air stream; the foreign material is picked up by the air stream and returned to the fan to be discharged with the cob and shuck. The thoroughly clean, shelled corn is dropped into a screw conveyor or bucket elevator. All units are precision manufactured of heavy gauge materials and are welded for strength and long lasting durability.

Get 15%-25% More Capacity with the BRYANT COARSE CRUSHER

The Bryant Coarse Crusher, made in three sizes 22", 30" and 36" to meet all requirements, and used ahead of your sheller to protect sheller from tramp iron, stones, and other foreign material, will step-up the capacity of your sheller by 15%-25%! Three sizes handle from 900 to 1,500 bushels per hour.



Bryant ENGINEERING CO.
1310 [illegible] Ave., Fort Wayne, Ind.

WRITE TODAY for FREE illustrated FOLDER
Giving Complete Details, Specifications and Dimensions on all models

Quality - Our most Important Product for 45 years

Daniel R. Moser

NEW SALES ENGINEER — Daniel R. Moser was recently appointed sales engineer in the grain processing equipment division of Strong-Scott Mfg. Co., Minneapolis. Announcement of the appointment was made by L. S. Strong, president. Mr. Moser is a graduate of West Virginia university, and was a research engineer for Columbia Southern Corp. and the U.S. Corps of Engineers. Mr. Moser will service western Wisconsin and eastern Minnesota for the grain and feed industries, utilizing mixing, size reduction and size separation equipment.

Conference; Oregon State College, Corvallis; chm., Dr. J. R. Parker.

Feb. 10-12—Wyoming Grain, Feed & Seed Dealers Assn.; Casper; sec., Everett L. Berry, P.O. Box 118, Sheridan, Wyo.

Feb. 14-15 — Washington State Feed Assn.; Olympic Hotel, Seattle; sec., J. G. Wilson, 814 Second Ave. Bldg, Seattle 4, Wash.

Feb. 14-15 — Utah Feed Manufacturers & Dealers Assn.; Brigham Young University, Provo, Utah; sec.-treas., Dr. Lawrence Morris, Animal Husbandry Dept.

Feb. 15-17—Institute of American Poultry Industries Fact Finding Conference; Municipal Auditorium, Kansas City, Mo.; pres., Cliff D. Carpenter, 221 North LaSalle St., Chicago 1, Ill.

Feb. 17-19 — Midwest Feed Manufacturers Assn., Broadmoor Hotel, Colorado Springs, Colo.; exec. vice pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Feb. 19-20 — Virginia Polytechnic Institute Nutrition School for Feed Men; Hotel Roanoke, Roanoke, Va.; chm., Paul M. Reaves, dept. of dairy science, VPI, Blacksburg, Va.

Feb. 24-26—Ohio Grain & Feed Dealers Assn.; Neil House Hotel, Columbus, Ohio; sec., G. E. O'Brien, Ohio St., Greenville, Ohio.

Feb. 24-26—Colorado Grain, Milling & Feed Dealers Assn.; Denver, Colo.; sec., R. B. Kelly, 714 Cooper Bldg., Denver 2, Colo.

March 13—Distillers Feed Conference; Sheraton-Gibson Hotel, Cincinnati, Ohio; exec. director, Lawrence E. Carpenter, 1232 Enquirer Bldg., Cincinnati, Ohio.

March 13-17 — Grain Processing Machinery Manufacturers Assn.; Edgewater Gulf Hotel, Edgewater Park, Mississippi; sec., Raymond J. Walter, 511 Fifth Ave., New York 17, N.Y.

March 14-17 — Pacific Dairy & Poultry Assn.; Ambassador Hotel, Los Angeles; assn. office, 1304 E. Seventh St., Los Angeles 21, Cal.

March 14-15—Oregon Feed & Seed Dealers Assn., Multnomah Hotel, Portland; mgr., Huss Hayes, Lewis Bldg., Portland 4, Ore.

March 17-18—Quad-State Convention; Martin Hotel, Sioux City, Iowa; sec., Don Suttie, Sioux City Grain, Feed & Seed Assn., Box 341, Sioux City.

March 21-22 — Maryland Nutrition Conference; Shoreham Hotel, Washington, D.C.; chm. Dr. G. Lynn Romoser, Department of Poultry Husbandry, University of Maryland, College Park, Md.

April 4-6—Animal Health Institute, annual meeting; Greenbrier, White Sulphur Springs, W. Va.

April 10-11—Texas Feed Manufacturers Assn.; Gunter Hotel, San Antonio, Texas; sec., Ben E. Schmitt, 528 Bewley Bldg., Ft. Worth, Texas.

April 12-13—Texas Grain & Feed Dealers Assn.; Gunter Hotel, San Antonio, Texas; sec., Ben Ferguson, 614 Meacham Bldg., Ft. Worth 2, Texas.

April 25-27—Kansas Grain & Feed Dealers Assn.; Broadview Hotel,

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PLAN AFMA CONVENTION—The program committee planning the 49th annual meeting of American Feed Manufacturers Assn., to be held at the Conrad Hilton Hotel, Chicago, May 1-3, 1957, met recently at the AFMA offices in Chicago. Programming the two days of speaking sessions which will be held in conjunction with the National Feed Industry Show, were: (left to right) W. E. Glennon, president, AFMA; David McVey, General Mills, Inc., Minneapolis; Ray Ammon, Vitality Mills, Inc., Chicago; James C. North, Nutrena Mills, Inc., Minneapolis, committee chairman; Oscar Straube, Pay Way Feed Mills, Kansas City, AFMA board chairman; John Westburg, International Minerals & Chemical Corp., Chicago, and Bruce Varney, Agri-Tech., Inc., Kansas City.

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U.S.I. FEED NEWS

Vol. III, No. 10 ★ A SERIES FOR SCIENTISTS AND EXECUTIVES OF THE FEED MANUFACTURING INDUSTRY ★ October, 1956

Methionine Increases Enzyme Activity

Certain amino acids, methionine in particular, are able to increase enzyme activity, according to a report from a western university.

The amino acids tested were fed to experimental animals as supplements to a casein diet. Methionine brought about an increase both in lipase and protease activity. The amino acids phenylalanine and isoleucine increased protease activity alone.

Enzymes Aid Digestion

Enzyme activity, an important part of the digestive process, breaks down feed components so that they can be absorbed through the intestines. It is interesting to learn that methionine increases enzyme activity and thus raises the efficiency of feed utilization. This phenomenon possibly helps explain methionine's ability to promote growth and feed efficiency when added to poultry rations.

With the current trend toward adding enzymes such as pepsin to animal feeds, this activity of methionine appears doubly important.

Methionine, an essential amino acid commonly added to animal feeds, was first made commercially available by U.S.I., the pioneer producer, 10 years ago this month.

Worthwhile Reading

Feed Age for September contains a roundup of articles entitled, "Phosphorus in Feed Manufacturing."

New Reports Stress Importance of Vitamin A in Poultry Nutrition

U.S.I. Permadry Assures Top Vitamin A Performance

Reports on the role of vitamin A in poultry nutrition are commanding an increasingly larger share of attention.

Field observations from a leading veterinary school showed that vitamin A was the only effective therapy known to combat capillaria worm infection in poultry. Adding 6000 units of vitamin A per pound to a ration already containing 4500 units per pound effectively controlled the disease within 10 days.

On the West Coast, nutritionists report that storage of vitamin A in the liver of chicks declines after hatching even when ample vitamin A is present in the chick starting ration. Investigators emphasized the importance of an adequate vitamin A reserve supplied to the fertile egg by the hen, in addition to supplementation of the chick starter.

Tests Prove Permadry Best

When it comes to adding supplemental vitamin A to feeds, manufacturers should choose their source with care. In biological tests, results superior to those of other vitamin A products have been obtained with U.S.I. Permadry, a patented "sealed-in" vitamin A product containing hydrogenated fats.

Protects Vitamin A Potency

U.S.I. Permadry stabilizes vitamin A potency against moisture and deterioration in storage and processing without interfering with its biological availability in the digestive tract.

The biological activity of the vitamin A furnished to the animal by U.S.I. Permadry is far in excess of that found by physico-chemical tests. Permadry is now the product of choice in studies conducted by many leading agricultural experiment stations.

Photo Col. of Ag., Univ. of Md.

Watery eyes and swollen eyelids are typical of vitamin A deficiency in chicks.

Chicks Use Amino Acids To Fight Infection

Evidence that chicks utilize certain amino acids to fight infection has been reported. Analyses of the blood and liver of chicks infected with *Salmonella pullorum* showed that levels of four amino acids — methionine, glycine, arginine and tryptophan — were reduced during infection. The organism appears to have no specific need for all four of these amino acids, and the inference has been made that they are being utilized by the host in its defense against the pathogen.

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- VACATONE® 80, molasses distillers dried solubles
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April 26—Indiana Cattle Feeders Day; Purdue University, Lafayette, Ind.; chm. W. M. Beeson, Department of Animal Husbandry, Purdue University, Lafayette, Ind.

April 26-May 1—National Fisheries Institute; Edgewater Beach Hotel, Chicago; Mal Xavier, 1614 20th St. N.W., Washington 9, D.C.

May 1-3 — American Feed Manufacturers Assn.; Conrad Hilton Hotel, Chicago; sec.-treas., W. T. Diamond, 53 W. Jackson Blvd., Chicago 4, Ill.

May 19-20 — Missouri Grain, Feed & Seed Assn., Hotel Connor, Joplin, Mo.; sec., D. A. Meinershagen, Eagle Mill & Elevator, Higginsville, Mo.

June 9-11—Indiana Grain & Feed Dealers Assn.; French Lick-Sheraton Hotel, French Lick, Ind.; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis 4, Ind.

June 10-11—Eastern Federation of Feed Merchants; Hotel Commodore, New York; exec. dir., Austin W. Carpenter, Sherburne, N.Y.

June 11-12 — Montana Nutrition Conference; Montana State College, Bozeman; chm., O. O. Thomas, Animal Industry Department.

June 17-18—Georgia Feed & Poultry Conference; Dinkler Plaza Hotel, Atlanta; sec., Will L. Kinard, 3240 Peachtree Road Bldg., Room 210, Atlanta 5, Georgia.

June 17-19—Association of Southern Feed & Fertilizer Control Officials; Dinkler-Tutwiler Hotel, Birmingham, Ala.; sec., Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky.

Sept. 11-13 — American Pet Food Manufacturers; Drake Hotel, Chicago; sec., R. L. Kathe, APFM Division of American Feed Manufacturers Assn., 53 W. Jackson Blvd., Chicago 4, Ill.

Delmarva Soybean Shippers Get Warning

SALISBURY, MD.—Soybean shippers in the Delmarva area have been warned by the Pennsylvania Railroad to make sure the cars they ship do not contain large quantities of foreign material.

A letter from the railroad to shippers in the area pointed out that in the past few years many cars have arrived in Philadelphia and Baltimore containing excessive quantities of pods, stems, and in some instances, sand, stones or pebbles. The result is that inspection certificates are being issued indicating grades in excess of the quality of the soybeans in the car.

If it is found that any shipper is loading beans of inferior quality—especially from a foreign material standpoint—export permits will not be issued for cars from that shipper for the balance of the season, the letter said.

Because of cost factors, Delmarva shippers are virtually compelled to ship by rail.

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"Today's coccidiostat must shoulder more of the load!"

a message from HESS & CLARK, Inc.

To the feed industry:

We at Hess & Clark have long felt that feed medications should contribute to overall feed performance while they fight disease. We believe both you and your customers have a right to expect such results . . . *must* have them, in fact, to maintain profits in the face of today's more competitive situations.

With the announcement of bīfuran, the new coccidiostat developed by Hess & Clark, this policy of "disease control . . . *plus*" assumes special significance. After all, coccidiosis is not the broiler grower's only problem. His big problem is unit cost of production — his coccidiostat should help him produce more meat at less cost. We believe you and your growers will find bīfuran to be the most profitable coccidiostat you have ever used.

Bīfuran, a specific combination of nitrofurans, already has soundly proved its effectiveness in coccidiosis control. And it has demonstrated unmatched benefits by improving feed conversion — maintaining broiler growth while fighting off secondary infections.

Our representatives are ready to give you complete data from field trials and extensive research studies. We invite you to try bīfuran — to test it in your feed formulas — to see why this coccidiostat shoulders a greater share of the load in a bag of feed.

Cordially,

Frank N. Getman

Frank N. Getman
President

New bonus benefi

Lifesaving bīfuran
turns today's problems
into tomorrow's profits

Broiler growers are in the market for feeds with a coccidiostat that does more than control coccidiosis. To maintain profitable production they need the better feed conversion qualities and other bonus benefits that bīfuran adds to your feed. That's why, regardless of the coccidiostat you're now using, it will pay to switch to bīfuran, the coccidiostat that turns problems into profits. New bīfuran is ready now. Ask your Hess & Clark representative for full details.

it coccidiostat...

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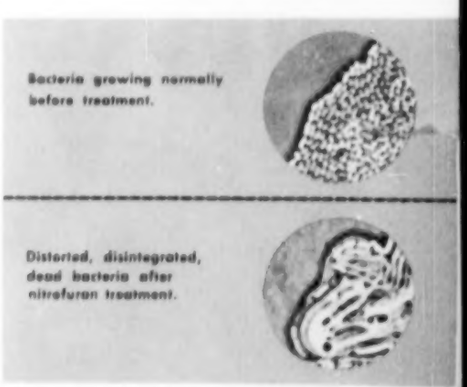
....today's answer to better broiler feed performance

New bīfuran is more than an efficient answer to coccidiosis problems. It's a modern coccidiostat with unmatched bonus benefits. Besides controlling coccidiosis and permitting solid immunity, bīfuran significantly improves feed conversion,[1,2] stimulates growth in the presence of coccidiosis[3] and attacks many secondary infections.[4] That's why bīfuran helps broilers make better use of every ounce of feed. Feeding records speak for themselves — show that birds fed bīfuran-fortified broiler rations need less feed to make the weight. That's why new bīfuran is best for broiler growers . . . and best for feed manufacturers. Bīfuran is today's answer to improved broiler feed performance.

Better feed conversion—Recent field research with bīfuran demonstrated feed savings of up to 4¢ per bird over another widely used coccidiostat . . . up to ½ pound less feed needed to grow a 3-pound bird.[3]

Effective coccidiosis control — Bīfuran gives greater protection against both cecal and intestinal coccidiosis because of the synergistic action of its own nitrofuran components.[2,5,6] Allows development of solid immunity.



Fights secondary infections—Bīfuran attacks vitality sapping secondary infections which often go undetected to lower feed performance. These actual microscopic photographs demonstrate the action of nitrofuran drugs against common disease bacteria.

Turn the page for more research and performance information ——

bīfuran

No other coccidiostat can match bīfuran's performance in broiler feeds

Bīfuran goes to work where it helps the most. Controls coccidiosis. Improves feed conversion. Increases profit per bird. For instance, when 1,800 White Rock chicks were exposed to natural coccidiosis infections, the birds fed bīfuran-fortified feed required .33 pound less feed per pound of gain than birds given another widely used coccidiostat.[3]

The birds receiving bīfuran in this test returned 4.26¢ more per bird than birds given the other coccidiostat.

These results are confirmed by other widely conducted tests.[1] In every case birds receiving bīfuran cost less to raise than the birds receiving the other coccidiostat. These tests show that broiler growers can expect savings of 2¢ to 3¢ per bird by using bīfuran-fortified feeds.

bīfuran maintains growth

From day-old to market, bīfuran helps keep birds gaining at their expected rate. Even during times of stress no lag in gain is likely. This means growers can more accurately hit market dates and deliver top quality birds.

Wide margin of safety

There's no risk involved with bīfuran in your feeds even at twice the recommended level. It's non-toxic. And it's safe even if accidentally given to breeding or laying flocks. There are no adverse effects on egg quality, fertility, hatchability or rate of lay. This is another important reason why bīfuran is the ideal coccidiostat both for feedmen and growers.

On the handling end — bīfuran frees you from the worry of contamination problems. It's safe in the mill —in feed rooms. Accidental drug hangups are no problem — new bīfuran is also safe for breeding and hatching flocks — no risk involved when using the same equipment to mix broiler and layer or breeder feeds.

Leaves no residue in body tissue

Bīfuran can be fed right up to market time without danger of drug residues left in body tissue. It's used up as it works. There's no dangerous leftover.

bīfuran advantages spell more profit

Add up all the bonus benefits of bīfuran and the total is more profit for broiler growers and better feed merchandising for you. Bīfuran frees you from the worry that your coccidiostat may upset feed conversion or cause other harmful side effects. Include bīfuran in your broiler feeds now and take advantage of this new combination of lifesaving nitrofurans.

It pays off in better feed sales and more grower satisfaction with your feeds. Your Hess & Clark representative has complete details or contact Feed Products Division.

Here's how you register bīfuran;

No new drug application or certification is required to add bīfuran to your feeds. Bīfuran appears on the tag as a combination of furazolidone and nitrofurazone. All you need do is list the active drug levels of each to comply with local state regulations. Bīfuran is compatible with all commonly used feed medications and can be used in combination with regular levels of arsenicals, antibiotics, etc.

REFERENCES:

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2. Harwood, P. D., Stunz, D. I., and Wolfgang, R. W.: The Efficacy of a Nitrofuran Mixture as an Avian Coccidiostat, Research Department, Hess & Clark, Inc. (1956)
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6. Parker, E. L.: Personal Communication. (1956)

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Development of Feed Conversion Contract Explained

RICHMOND, VA.—The development of the feed conversion type of contract between grower and feed man is described in a recent Virginia Department of Agriculture bulletin.

The report, addressed to farmers, calls this type of contract "slide rule insurance for growers" and points out that this financing system provides a more even income for the grower and makes efficiency of production more important.

Here's what the Virginia bulletin has to say about it:

Ever since the broiler industry began to grow in Virginia, the grower himself had a big worry: the ups and downs of the market that made him a profit one month, dropped him into debt the next.

One of the first stabs at solving the problem was the 75-25 contract between grower and feed dealer, the grower getting 75% of the profits, after all costs were paid; the dealer, 25%.

This worked around, thanks to competition, to a 90-10 deal—90% to the grower, 10% to the feed dealer after costs.

And now, a good many growers are working under a different plan, one that is designed with two things in mind: security for the grower, giving him a levelled-out income; and efficiency, because his profits are based largely on how low he can keep his production costs, along with the current market price at marketing time.

It's the feed conversion plan and its first-cousin — the feed-efficiency method.

The grower's price is based on feed conversion rates, current market price and broiler weight. The dealer says, in effect: "I'll furnish my part of our agreement—chicks, feed, heat, and so on—and when your broilers come to market, your feed conversion rate and the current market price will determine just how much you get per broiler."

The contract is that in high market times, the feed dealer takes a percentage cut out of the grower's high prices.

To offset that, in times of low prices, the dealer adds a certain amount on to the grower's price, keeping him out of the red. The lower the grower's production costs the wider his profit margin stays even when prices are low.

A question that comes to some grower's minds is: "Why should a feed dealer want me to keep feed conversion down? The more feed I use, the more money he makes." The answer to that one, as feed dealers will tell you, is that too many times his investment has gone down the drain when a broiler producer lost money and couldn't pay off.

Of course, the dealer is depending on the law of averages to keep him in the black at the year's end. And at times, it may look doubtful to the grower to take less than the market during high times. But when the pendulum swings the other way, it's a good feeling to get paid a profit margin—even small—above your production costs.

Especially when you know you earned it by your own smart operating.

LEASES ELEVATOR

SIBLEY, IOWA — Don Stafford, Fostoria, has leased the Arnold Grain Co. elevator here.

Wisconsin Unit Plans 5 District Meetings

MILWAUKEE—Five district meetings have been scheduled by the Central Retail Feed Assn. for the week Oct. 29-Nov. 2. Each meeting will start with a 6:30 p.m. dinner and will feature talks by four speakers.

C. W. Sievert, C. W. Sievert & Associates, Chicago, a feed formulation consulting firm, will answer six questions: (1) What is the value of high energy feeds for broilers and layers? (2) What are the energy needs of the dairy cow? (3) What place do hormones have in feeds? (4) Is it worth while to grind hay and cob corn? (5) Where do enzymes fit into the feed picture? (6) What about antibiotics from a nutritional and high-level standpoint?

"The Feeding Outlook" will be the topic of William T. Diamond, secretary-treasurer of the American Feed Manufacturers Assn. Other speakers will be Ray H. Kaercher, new president of the Central Retail Feed Assn., from the Globe Milling Co., Watertown, and Walter B. Griem, in charge of Wisconsin feed and fertilizer control.

The meeting dates, places and local chairmen in charge of reservations are as follows:

Oct. 29—Eau Claire, Donald F. Crane, E. J. Crane & Sons, Chippewa Falls.

Oct. 30—Wausau, Dave Humphrey, Northern Milling Co., Wausau.

Oct. 31—Fond du Lac, David K. Steenbergh, Fond du Lac.

Nov. 1—Janesville, C. L. Smith, Farley Feed Co., Janesville.

Nov. 2—Green Bay, Tom Strid, Strid Grain Co., Green Bay.

Members and non-members of the association are welcome, officials say.

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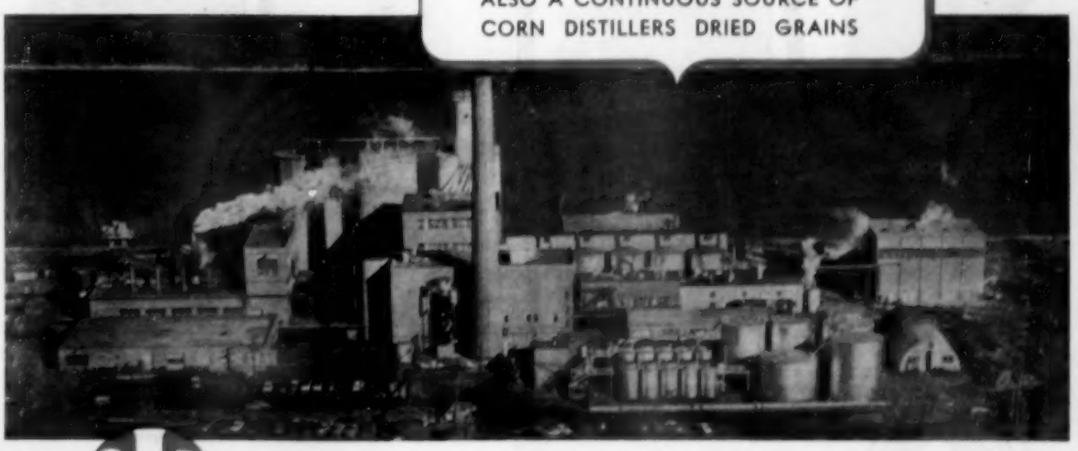

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New Nutrition Developments Outlined at Texas Meeting

By JAMES W. MILLER
Feedstuffs Editorial Staff

COLLEGE STATION, TEXAS — Some of the latest developments in poultry and animal nutrition were outlined for feed men on hand for the extensive program presented at the annual Texas Nutrition Conference Oct. 4-5 at Texas A&M College.

Some 300 persons were present for the two-day conference to hear talks by speakers from Texas, other colleges and industry. Twenty-two states, Mexico and Venezuela were represented at the conference.

(An earlier report covering talks on feed industry trends, quality control and turkey nutrition appeared in the Oct. 13 issue of Feedstuffs.)

Following are reviews of talks dealing with various aspects of poultry nutrition, further work on unidentified factors, swine nutrition, ruminant nutrition and veterinary aspects of the feed industry:

POULTRY NUTRITION: The government action which resulted in removal of DPPD from use in poultry feeds immediately focused attention on the use of other antioxidants, said R. H. Bunnell, applied nutrition laboratory, Hoffmann-La Roche, Inc., Nutley, N.J., in a discussion of antioxidants and vitamin E.

"The fact that BHT was already approved for food use and had been shown by Connecticut workers to prevent encephalomalacia in the chick placed it in the first rank of consideration," the speaker said. Whether it will duplicate DPPD in all of its actions is yet to be determined. It has been reported, however, that BHT will protect the chick against encephalomalacia, increase storage of vitamin A in the liver and prevent perosis in turkeys.

Vitamin E is a necessary vitamin which cannot be completely replaced by any synthetic antioxidant, Dr. Bunnell said. It is unfortunate that we still are ignorant as to the exact biochemical role played by this vitamin, he said, but progress is being made.

Dr. Bunnell noted, among other things, that tocopherol will restore the activity of certain enzyme systems which have been extracted with fat solvents, while antioxidants such as BHT and DPPD were inactive. This, he said, emphasizes the specific requirement for tocopherol by certain enzymes.

It may be said, the speaker concluded, that vitamin E still is a necessary vitamin for all-around nutrition and that antioxidants have earned their place in the feed bag. The good feed manufacturer should be certain that adequate levels of the vitamin are present and, if not, a stable source should be added. Then, to insure preservation of natural ingredients, prevent rancidity and insure freshness, he should add an antioxidant.

Separate Rations for Male and Female Poultry: Along with great

TEXAS SPEAKERS—Caught in action while they spoke at the recent Texas Nutrition Conference were the above four college specialists. From the top, they are: Dr. C. K. Whitehair, department of animal pathology, Michigan State University; Dr. L. E. Hanson, department of animal husbandry, University of Minnesota; Dr. J. R. Couch, departments of poultry science and biochemistry and nutrition, Texas A&M College, and chairman of the conference, and Dr. M. L. Scott, department of poultry husbandry, Cornell University.

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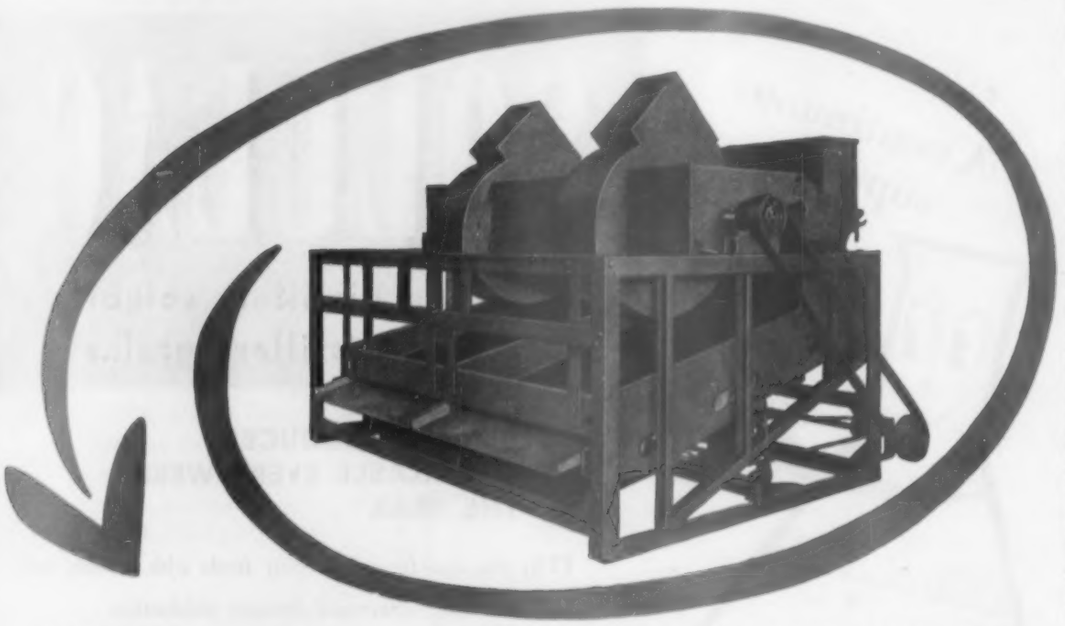

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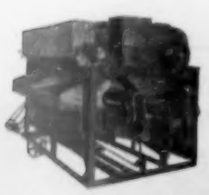
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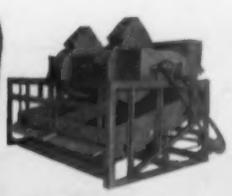
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TEXAS CONFERENCE PARTICIPANTS — Pictured above are some of the feed industry and college people who attended the recent Texas Nutrition Conference held on the campus of Texas A&M College in College Station. From left to right are Dr. R. E. Leighton, Texas A&M; Reed McDonald, chief of the Texas feed control service, College Station; Ben Schmitt, secretary, Texas Feed Manufacturers Assn.; Dr. J. M. Prescott, Texas A&M; Loren V. Burns, Agri-Tech, Inc., Kansas City; M. L. Cooley, Hoffman-Taff, Inc., Springfield, Mo.; E. E. Brown, assistant state chemist, Texas Agricultural Experiment Station; Dr. C. M. Lyman, Texas A&M; Dr. A. D. Tillman, Oklahoma A&M College; Dr. Morris Erdheim, Dawe's Laboratories, Inc., Chicago, and Dr. R. H. Bunnell, Hoffmann-LaRoche, Inc., Nutley, N.J. Several of them were conference speakers.

progress in increasing feed efficiency of poultry have come research and thinking regarding differences in nutritional requirements of male and female chickens and turkeys, said Dr. H. Yacowitz, The Squibb Institute for Medical Research, New Brunswick, N.J. Savings in feed costs and other benefits will undoubtedly result in improved production efficiency.

Dr. Yacowitz noted that at market age, the male broiler weighs about 20% more than the female and is 10% more efficient in utilizing feed. Some male turkey broilers weigh as much as 40% more than females. Females, it is noted, are higher in fat content. The differences in growth rate and feed efficiency, Dr. Yacowitz explained, are due to physiological differences between males and females, with different hormones having different effects.

Rapid growth rate is accompanied by increased need for nutrients, implying that males should have higher nutritional requirements. Data show that male chickens and turkeys have higher requirements than females for protein, energy and certain minerals, and there is some evidence of different unidentified factor requirements.

At present, Dr. Yacowitz asserted, chicken and turkey broiler rations are over-formulated—they are formulated to meet the maximum requirements of either sex. When more data are accumulated, it should be possible to formulate rations for females which will be lower in protein, fat, antibiotics, phosphorus and probably other nutrients, meaning a reduction in feed costs. Approximately $400 million worth of broiler feed will be used in 1956 and half of it will be consumed by females, showing the possibilities of significant savings.

Other benefits from separate rations and management for males and females include: (1) Broiler grower can take advantage of different marketing times for each sex, (2) he can market more uniform birds, (3) he can make the proper hormone treatment to flocks separated by sex. On the latter point, the speaker gave the following examples: (1) Testosterone injections will increase growth and improve feed efficiency of female chicks and turkeys, but are detrimental to males, and male hormones may be fed to females in the future; (2) iodinated casein increases the weight of males but has no effect in females.

The principle of separate rations not only will be applied to poultry but to all types of livestock in the future, Dr. Yacowitz said.

Effect of Milk Products on Eating Quality of Broilers: Because of the expanded consumption of broilers, the subject of eating quality of poultry is receiving wider attention in research, S. M. Weisberg of the National Dairy Research Laboratory, Oakdale, L.I., declared.

The speaker has done considerable research on the effect of milk products on the eating quality of broilers, and devoted his discussion to that subject. He made the following observations: (1) Milk-fed poultry were more tender in the uncooked state and very little visible fat was present as opposed to the control birds. (2) Cooked poultry had more tender skin and meat. (3) Both meat and broth of the milk-fed poultry were more flavorful. (4) The eating quality of poultry fed modern corn-soya type rations was consistently improved by milk product supplementation over the range of 1.5-5% milk product solids. (5) A uniform distribution of fat over the carcass seemed clearly indicated with milk supplementation.

To further the investigation of the effect of milk products on chicken fat quality, the problem has been ap-

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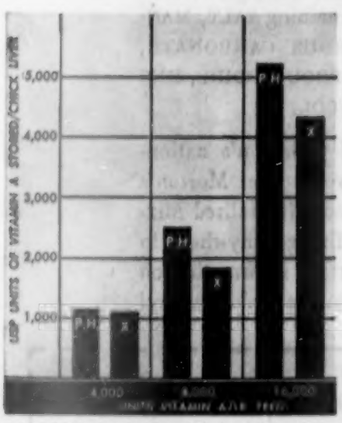

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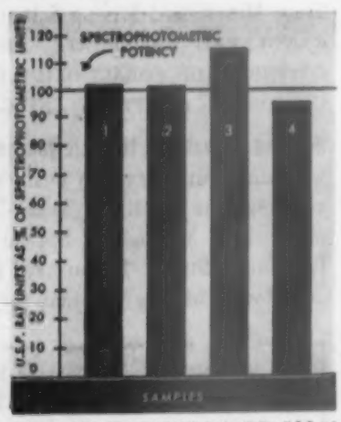

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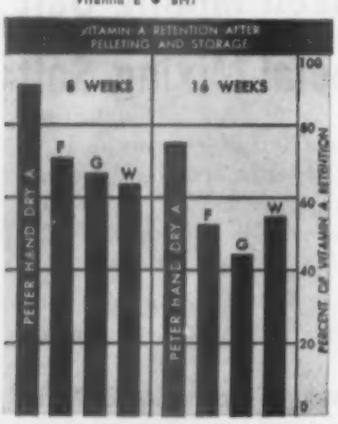

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proached by studying the composition of chicken broth using paper chromatography, Dr. Weisberg said. An explanation of work being done on this project was given by the speaker.

More work remains to be done, the speaker said, encouraging others to work in this field.

UNIDENTIFIED GROWTH FACTORS: By testing a variety of unidentified factor supplements, singly and in various combinations, evidence has been obtained which indicates the existence of at least four distinct unknown factors, Dr. M. L. Scott, Cornell University, Ithaca, N.Y., said. The factors and their distribution in natural materials are as follows:

(1) Fish solubles factor—fish solubles, fish meal, meat scraps, dried whey and other milk by-products, penicillin mycelium meal.

(2) Fermentation solubles factor—grain distillers' dried solubles, molasses distillers' dried solubles, liver meal, dried brewers' yeast, fish solubles, soybean oil meal.

(3) Grass juice factor—fresh forage juice, liver meal, dried brewers' yeast, dried whey, dried skimmilk, dried buttermilk, soybean oil meal, fermentation dried solubles.

(4) Protein factor—soybean oil meal, peanut meal, casein, gelatin (some samples).

An indication of the fourth factor, the protein factor, is evidenced by the fact that the use of whole-protein materials in purified diets invariably promotes better chick growth than that which results when the protein is replaced by pure amino acids in the same quantities as they are found by analysis to be present in the intact protein, Dr. Scott said.

"Using most of the laboratory procedures which have so far been developed, we have succeeded in concentrating the activity of the fish solubles factor and the grass juice factor manifold, but have not succeeded, as yet, in isolating either of these factors," he said. In studying the distillers solubles factor, it was found both at Cornell and Texas that the unidentified factor is present in the ash of distillers' solubles and, therefore, that it is a mineral nutrient. The factor has been shown to be involved in bone formation as well as growth.

During the past year and a half the isolation of the mineral nutrient has been under study at the two stations. In tests on salts of 36 different mineral elements, no growth responses have resulted which were consistent with the responses occurring when the ash of the unidentified factor supplements was added to the basal diet.

Only after the factors are identified will it be possible to determine the exact requirements of chicks and poults and to determine the amounts of each that are present in natural feedstuffs, Dr. Scott concluded.

Unknown Factor Studies at Texas: The discussion of unidentified factors was continued in a paper by B. L. Reid, A. A. Camp and J. R. Couch of Texas A&M. It was noted that previous work showed that the ash of certain growth factor sources would also stimulate chick growth, but the responses were only half to two thirds of those from the untreated products, leading to the belief that there still exist two or more organic factors to be identified.

Much of the poultry research at Texas has been devoted to study of the effect of unidentified factors on growth, egg production and hatchability. Recently, the workers have observed a growth response with molybdenum in both chicks and poults fed purified diets. Tests on molybdenum compared with distillers dried solubles ash and with untreated product indicate molybdenum is a dietary essential for both the chick and poult under certain conditions and that a portion of the growth-promoting activity of the ash of distillers dried solubles may be due to the molybdenum content. The molybdenum-containing enzyme, xanthine dehydrogenase, was found to show a greater activity in those instances where molybdenum was fed. The addition of molybdenum to practical poultry rations at the present time has not been checked and is not presently recommended.

The report also cited work on organic growth factors, but answers are still indefinite.

In practical feed formulations, the researchers said there are two unidentified growth factors—the "whey factor" and the "fish factor." It was stated that it is not necessary to add more than 2½ to 3% of sources of each of the two factors if the sources are dependable. It is desirable to use more than one source of each of the factors and, according to Texas recommendations, the nutritionist should use 2½% of each of two sources of each factor. It is probably necessary to use slightly higher quantities of the sources in turkey feeds than in broiler feeds.

SWINE NUTRITION: Dr. L. E. Hanson of the department of animal husbandry, University of Minnesota, St. Paul, described a series of experiments at Minnesota which compared the effect of protein levels on growth and carcass quality of pigs.

The experiment, started with pigs at eight weeks of age, had one group fed 18% protein from start to 125 lb. and then 15% from 125 lb. to slaughter. The other pigs were fed 14% and then 11% protein.

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the lower level of protein produced as rapid and efficient gains as the higher level.

There were no statistically significant differences between carcasses due to protein level, Dr. Hanson said. However, there seemed to be a trend toward slightly more fat in the carcasses of the pigs fed the lower level of protein. This difference was not statistically significant either.

Nutrition of the Brood Sow and Baby Pig: The most fruitful areas for research in swine nutrition and management are with the sow and young pig, said Dr. L. E. Hanson in a second talk. At the same time, he said, it has become apparent that in studying the young pig, one should follow the progress of the pig until he goes to market, whenever possible, for piecemeal research on a small portion of the pig's life can lead to erroneous conclusions.

Dr. Hanson said there now appears to be quite a bit of agreement that bred sows and gilts do not need as much feed as many are fed, and he outlined research on limited feeding. The use of corn cobs to restrict energy intake of self-fed gilts was one of the methods described, and in certain experiments lower costs per weaned pig were shown. Smaller gilts handle themselves better in the farrowing pen, it also was noted.

Studies at other stations indicate that silage may have a place in the feeding of breeding animals. Dr. Hanson said that whether one should use alfalfa hay, corn cobs or silage, or whether one should hand-feed to restrict energy intake, would depend on prevailing circumstances.

In discussing baby pig nutrition, he cited work indicating that the vitamin requirements of baby pigs are very similar to those of somewhat older pigs. Amino acid requirements also appear to be similar, expressed as percent of dietary protein. Twenty percent appears to be best level of protein for young pigs. Minnesota studies indicate a slight increase in feed efficiency when fat is added, but the fat would have to be bought for less than 5¢ lb. to pay its way, Dr. Hanson said. Iowa work indicates that lactose is a superior carbohydrate for baby pigs, and among others, yellow corn appears to be as satisfactory as any. There is no question about the value of sucrose as a palatability factor in baby pig feeds, he continued. In Minnesota studies, gains were faster but feed efficiency slightly less with sugar.

Discussing early weaning, he cited Minnesota studies in which post-eight-week performance of early weaned pigs was not as good as for pigs weaned at eight weeks.

Unknown Growth Factors in Baby Pig Nutrition: Good nutrition does not replace good management, John R. DeZeeuw of the agricultural research and development department, Chas. Pfizer & Co., Inc., Terre Haute, Ind., said, but the continued development of more palatable, better fortified and more economical pig starters causes constant re-evaluation of the merits of rearing baby pigs off the sow. Unidentified nutrients necessary for growth are implicated in part as factors limiting practical early weaning programs.

With the premise that baby pigs need at least two or more growth factors for optimum development, Dr. DeZeeuw described recent private experimentation along this line. He reported earlier work by his or-

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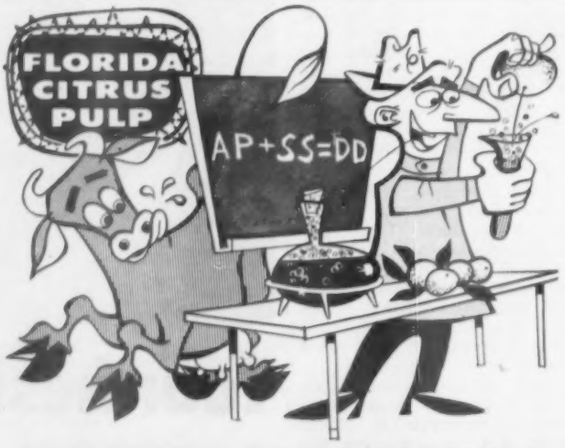

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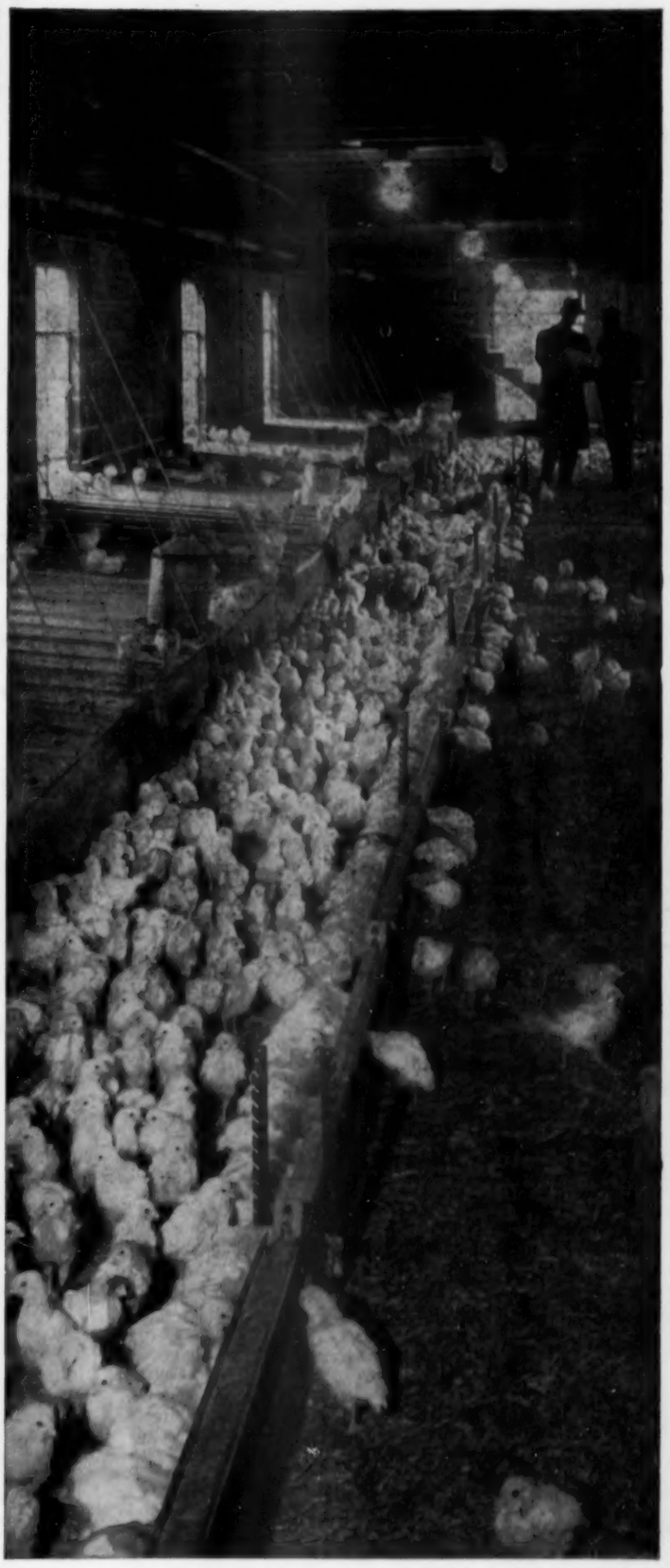

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ganization on UGF effects on performance of suckling pigs:

Creep supplement	Avg. daily gain (lb.)	Feed efficiency
None	0.68	1.12
3% FS	0.76	.98
3% DDS	0.59	.74
3% Vigofac	0.80	0.91

Other work done at the University of Minnesota was cited:

Starter supplement	Avg. daily gain (lb.)	Feed efficiency
None	0.57	2.25
3% Whey	0.67	2.32
2.5% FS	0.65	2.26
0.5% Vigofac	0.71	2.17

Additional data were given by Dr. DeZeeuw:

Starter supplement	ADG (lb.) No FM	ADG (lb.) 5% FM
None	.63	.60
0.15 Vigofac	.67	.63
0.45 Vigofac	.66	.65

From the work presented, Dr. DeZeeuw said, it can be ascertained that more than one UGF source improves growth and feeding efficiency of pigs whether they stay with the sow eight weeks, three weeks or one week.

The speaker also showed evidence that, parallel to work previously done with chicks, the ash fraction is a source of growth promoting activity in baby pigs.

RUMINANT NUTRITION: Allen D. Tillman of the animal husbandry department, Oklahoma A&M College, Stillwater, listed several factors regarding the use of urea as a partial replacement for protein nitrogen in ruminant feeding:

1. When urea is used to replace oil meals, the new ration must be evaluated with reference to energy and mineral content. A low energy ration lowers urea utilization; hence urea should be used in "good" rations only.

2. A low level of true protein and a high level of starch in the ration favor urea utilization.

3. Highly soluble and readily hydrolyzable protein in the ration tends to depress the utilization of urea.

4. Sugars and cellulose are inferior to starch as sources of energy for the microflora; however, a mixture of sugar and starch supports satisfactory conversion in certain "in vitro" experiments.

5. Urea is somewhat inferior to the conventional protein supplement as a source of nitrogen for growth of beef cattle. Thus, only about a third of the nitrogen should be supplied by urea, and some indicate no more than 20-25%.

6. For fattening cattle the value of urea is somewhat less when urea is fed at levels higher than 25% of the nitrogen of the total ration or supplying 50% of the nitrogen in the protein supplement.

7. For fattening lambs, the results are confusing. Some data support the idea that in rations containing not over 12% crude protein, urea can satisfactorily replace 25% of the nitrogen of the total ration.

8. Urea is a satisfactory substitute for about a third of the nitrogen in the rations of ewes during gestation or lactation.

9. For the lactating cow, urea can satisfactorily be used at levels of 1% of the total ration, or 3% of the concentrate ration.

10. There is evidence that frequent feedings stimulate urea utilization.

Winter Cattle Disorders: Very little success is attained in treating either experimental ewes or cattle under field conditions after they have reached advanced stages of weakness and loss of appetite, Dr. C. K. Whitehair, department of animal pathology, Michigan State University, East Lansing, said in a discussion on winter disorders in cattle fed low quality roughage. Therefore, all consideration should be given to management and feeding practices which will prevent malnutrition.

This includes a close appraisal of the feed requirements for a cow-calf herd during winter months, he said. Additional feed should be readily available during unfavorable weather. This might consist of additional energy and protein supplements, and at least a small amount of high quality roughage. Cows that start the winter in a thin condition or that calve early will require more feed than cows in good flesh. Attention should be directed also to the feeding habits of individual cows. Crowded bunkers or feed placed in a restricted area may allow more aggressive animals to get more than their share of the feed, while timid animals are underfed.

In ascertaining the needs of vitamin A during the time cow-calf herds are on low quality roughage, one must consider factors that might destroy vitamin A activity such as large amounts of oxidizing minerals or factors that may make it unavailable for utilization by the animal.

(Continued on page 63)

"We depend on H. C. Summers & Company for service...and we've always gotten it!"

—says George W. Hoffman, Jr., dairyman, Rt. 1, Adamstown, Md.

"We are grateful to the Summers Co. for the service and advice they have provided. Mr. Summers has never failed to help me when I needed him. This Purina Dealer service has helped me build a profitable dairy operation."

Mr. H. C. Summers, Jefferson, Maryland, took on the Purina Franchise in 1921. He describes his philosophy as a Purina Dealer in simple terms—to perform maximum service for his customers.

"We developed our business because we practiced what we preached," says Mr. Summers. "We've always preached service."

Dairying has provided the largest potential for Mr. Summers during the last 35 years. He initiated delivery service for dairies, and made new customer contacts on a regular basis. Summers Co. has added still more services by installing two mixers, a grinder and molasses attachment.

Farmers are encouraged to bring in grain for grinding and mixing, but if they can't get to town, Summers will go out to the farm, bring back the grain, mix it and deliver the complete ration. Customers have learned to expect and depend on this kind of service.

Dairyman George W. Hoffman, Jr., is a typical Summers customer. He started in the dairy business in 1948, and has grown steadily. Young Hoffman gives lots of credit to the Summers Co. for his growth.

"We are milking 30 head now," says Mr. Hoffman, "with a total of 60 Holstein cows and heifers in our herd."

Real Service to the Farmer

"Congratulations, Mr. Summers!" says Purina Salesman F. G. Lodge. "Here is an outstanding example of how to increase dairy tonnage in an area where the number of dairy farms has remained about the same."

Platform of service produces increased tonnage

The Summers Co. has enjoyed its biggest increase in Dairy Chows tonnage during the last six years. New grinding and mixing equipment, well-trained men to operate the equipment, plus aggressive, consistent management follow-through, have built the business to its present level.

Purina Salesman Fred Lodge puts it this way: "This company was built on service and has grown on a platform of service. Management has been alert and progressive in using the tools Purina provides its dealers."

You can get details on the Purina Franchise by writing:

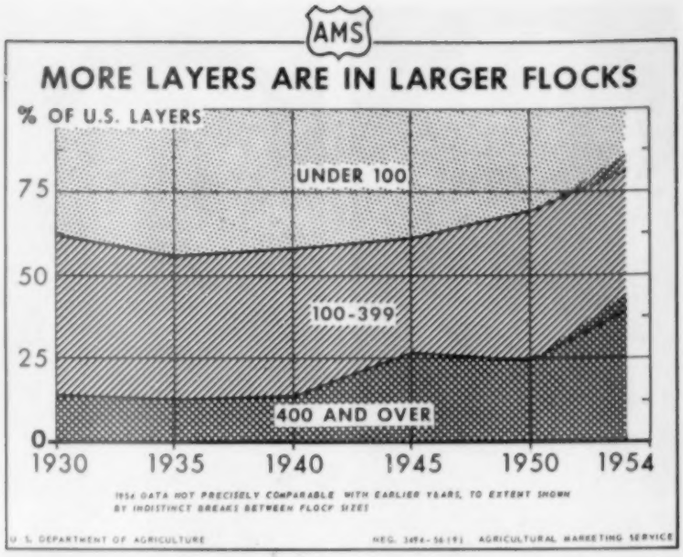
RALSTON PURINA COMPANY
1602 Checkerboard Square, St. Louis 2, Mo.

LONFOSCO Soft Phosphate with Colloidal Clay

Prepared by: Lonesta Phosphate Co. High Springs, Fla.

Distributed by: Warren-Douglas Chemical Co.

1513-15-17 Burt St., Omaha, Neb.



BIGGER FLOCKS—The continuing trend toward more specialization and larger flocks in the poultry industry is apparent in this U.S. Department of Agriculture chart. An increasing proportion of the layers on U.S. farms is being kept in flocks of more than 400 birds. Large flocks lay enough eggs to justify attention to quality maintenance and advantageous marketing, USDA points out.

Pelleting of Hay Improves Results In Illinois Study

URBANA, ILL.—Further evidence of the possibilities in pelleting hay was reported recently by researchers at the University of Illinois' Dixon Springs Experiment Station.

They told of results of a comparison of a timothy-alfalfa mixture fed as baled hay, chopped hay, hay pellets or silage for steer calves.

Performance of the steer calves eating baled hay and chopped hay was very similar and about as would be normally expected. Daily consumption was about 11 lb.; daily gain was about .63 lb.; and 1,728 lb. of hay were required for 100 lb. of gain.

Performance of steer calves eating hay pellets was reported outstanding. Daily consumption was 15.69 lb., daily gain was 1.73 lb., and only 906 lb. of pellets were required to produce 100 lb. of gain. This outstanding performance can be explained in part by the much greater daily intake of hay in the pellet form compared with baled or chopped hay.

Poor performance of steer calves fed silage and limited hay can be explained for the most part by low daily feed consumption on a dry matter basis, the researchers said. The calves refused to eat the amount of silage normally expected. The silage was rather high in moisture and made without an additive, which may account for its poor acceptance by the calves. Average daily gain of the lot fed hay silage free choice and 5 lb. of chopped hay was only .05 lb.

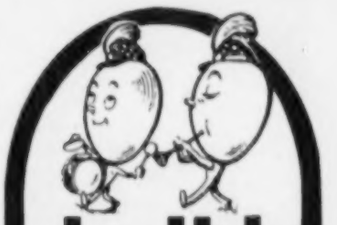
Florida Firm Offers New Molasses Mix

CLEWISTON, FLA. — U.S. Sugar Corp., blackstrap molasses producer, has announced a new "phenothiazine in urea-mineral-blackstrap molasses mix" as a feed for wintering cattle.

Copper, cobalt and phosphoric acid are among the materials which go into the new mix, along with urea for protein equivalent and phenothiazine for parasite control.

The mix will be sold to Florida ranchers for use as a supplement to pasture.

S. L. Crochet, vice president of the company, said that the supplement can help improve calf crop percentages. The new product will be delivered to ranches by custom carrier.



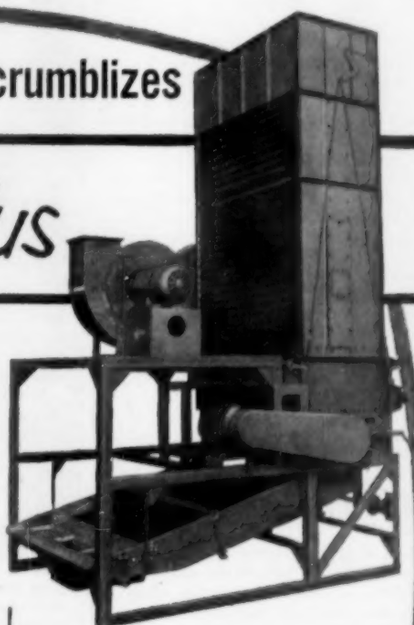
build a local market for quality EGGS

You can play an important part in promoting a quality Egg Program by helping egg producers: (1) set up a good feeding program; (2) find a premium price market for their eggs in nearby food stores.
Now you can gross an extra $60 per week from each 2,000 layers on this program by marketing top quality eggs. Housewives are willing to pay premium prices to get good eggs. All you do is lease a FRESH EGG MERCHANDISER and LOAN it to a Food Store in a nearby town to do your selling. Tests by Cornell, Missouri and Nebraska Universities prove that this self-service salesman can sell 600 doz. eggs per week. No investment . . . just LEASE a FRESH EGG MERCHANDISER for $24 per month with option to purchase if you wish. It's a sure way to make money with eggs, plus a profit on feed sales. WRITE TOBIAS ENTERPRISES, 225 NORTH MICHIGAN AVE., CHICAGO 1, ILLINOIS.

The FRESH EGG Merchandiser

cools...cleans...dries...grades...crumblizes

SPROUT-WALDRON COOLAIRE with the Big Plus



YOU'LL SAVE MONEY with this combined cooler and dryer, crumblizer, and cleaner and grader with scalper. Only one foundation is required. No expensive interconnecting spouting is needed. Floor space is saved. All drives, motors, and motor supports are furnished as part of the package unit. And the assembly can be easily bolted together and installed by semi-skilled labor, eliminating expensive installation costs.

Coolaire handles all sizes of pellets and cubes efficiently. A built-in by-pass allows the production of either pellets or crumbles without switching screens. Automatic Pellet Flow Control starts feeder only when cooler is full, preventing hot pellets at start of run. Additional cooling sections may be added for increased capacity — an important cost-saving feature. Coolaire can be installed without the crumblizer, which can be added later, if desired. It can be obtained with movable louvers—a new Sprout-Waldron first that insures cool pellets on short runs as well as on production runs.

Get details now. Write for Bulletin 105.

Sprout-Waldron's **BIG PLUS** assures you of expert engineering counsel and guidance on installation and application . . . plus finest workmanship and service . . . plus a reliability based on 90 years of dependable service to the feed industry and a desire to continue for another century.

SPROUT-WALDRON
The Best in Milling Equipment Since 1866
61 LOGAN STREET • MUNCY, PA.
Exclusive Canadian Distributors: Strong-Scott, Limited, Winnipeg
PELLET MILLS • HAMMER, ROLLER, ATTRITION, AND BURR STONE MILLS
MIXERS • SCREW, BELT, AND PNEUMATIC CONVEYORS • BUCKET ELEVATORS • CUTTERS, CRUSHERS, AND FEEDERS • REELS, SEPARATORS, AND ASPIRATORS • BULK FEED TRUCKS
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Vegetable and Animal Proteins
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Bulletin "What's New in Feed and Drug Research" available on letterhead request.

HISTORIC BUILDING—In the foreground is the old, original sheet metal shop of Henry L. Day, founder of the Day Co., manufacturers of dust-control equipment. Behind it is what is believed to be the mill which—when it exploded—spurred Mr. Day to develop his dust control machinery.

75TH ANNIVERSARY RECALLS—

Explosion Sparked Day Co.'s Start in Dust Control

Great tragedies sometimes give way to great technological improvements, and the devastating explosion of Washburn-Crosby Co.'s A-mill in St. Anthony, Minn., May 2, 1878, is a prime example.

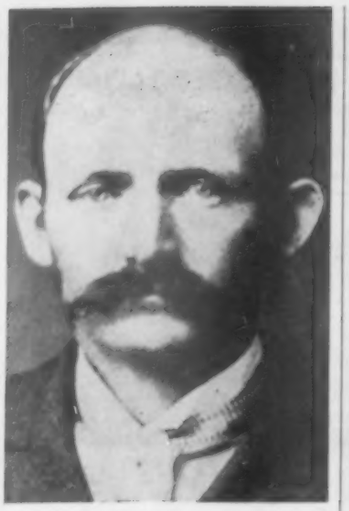
Out of the blast that rocked the river front came the inspiration that spurred pioneer Henry L. Day to put his brains and ingenuity to work on dust control systems for flour mills and, eventually, for many other types of business and industry. Today, the feed industry is one of the important users of this type of equipment.

And out of Mr. Day's inventions came the company that now bears his name, and which this month is celebrating its 75th anniversary, the Day Co.

Early records are scarce, but it appears almost certain that young Mr. Day, at the age of 24, came upriver on the Mississippi from his family home in Ironton, Mich., in 1879. He probably worked in St. Paul a while before setting up a sheet metal and tin shop in St. Anthony, within earshot of the Washburn-Crosby mill that was to figure so prominently in his life.

Married about 1885 to Celestia Starr, he was from this time to become close personal friends with some of the leading figures of Minneapolis, particularly with John Dunwoody, brother of William Hood Dunwoody. John Dunwoody and Mr. Day roomed near one another, later owned homes as next door neighbors.

Mr. Dunwoody was a bookkeeper for the Minnesota Millers Assn. This, coupled with his close friendship with Mr. Day, is credited largely with putting Mr. Day's thoughts to dust control in flour mills, which were subject to considerable trouble in the early days.



H. L. Day

Large saw mills and enormous grain elevators were being built rapidly. Mr. Day saw in Minneapolis an opportunity to supply these two principal types of business with sheet metal work. His experience and knowledge of air piping problems prompted him to design a dust separator as part of a dust control system for mills and elevators.

Serious Problem

In early flour mills and grain elevators dust control was a serious problem not reckoned with by many firms. Poor plant dust control (or in most cases, no dust control at all) resulted in serious explosions and fires. These disasters would wipe out the entire building or structure. The design and construction of early grain elevators contributed greatly to the dust explosion hazard. Early grain elevators were wooden buildings with a brick engine and boiler room, usually without a basement. Elevator legs were set into iron tanks. The grain bins were wooden and were open on top. Walks or galleries were built around them. Wooden spouting was used throughout. In some cases wooden spouts were connected to a dust house with provisions made for the dust to settle and for air to escape. Considerable expense was involved in removal of the dust—when it was removed at all.

When grain was transferred to or from the building the entire elevator filled with fine, choking, explosive dust. The elevator became a veritable powder keg.

Mr. Day, living and working close to the mills as he did, was constantly aware of this situation. It led to his eventual designing and fabricating of equipment to control, to separate and to handle the dust problem.

Mr. Day developed several pieces of special equipment to collect dust and to remove it by cyclonic separation from the atmosphere. The dust and chaff collected were used as fuel in those days. It was fed to furnaces by special feeding equipment also developed by Mr. Day. Soon buildings with proper dust control enjoyed reduced insurance rates and state health department commissioners began to insist that employees be given healthy, dust-free working conditions.

Firm Grows

Locations of the Day Co. in Minneapolis shifted several times. The first plant was located on the west side of St. Anthony Falls. About 1889 the plant was moved to 125 Sixth Av. So. Day dust systems spread to installations in larger numbers throughout the United States.

About 1900 Day Co. was transferred again, but still within Minneapolis. In 1900 success and acceptance were evidenced by the fact 44 of 48 elevators in Minneapolis were equipped with Day systems. Installations were made as far away as California and Liverpool, England.

By this time the advantages of dust collection had become important to a wide variety of industries. Box manufacturers, lumber companies, furniture makers, shoe companies, quarries, foundries, as well as hundreds of flour mills and elevators were utilizing dust control systems.

In the feed industry, dust collection has become a matter of economic importance beyond its role as a precaution against dust explosions. As the science of formulating feeds has advanced, and as more ingredients have been incorporated in formulas, manufacturers have found that dust collection systems enable them to recover valuable materials which

A. B. Osgood

R. E. Gorgen

Diethylstilbestrol
Nicarbazin
Nitrophenide
Arsanilic Acid
Sulfaquinoxaline
Dienestrol Diacetate
Nitrofurazone
Calcium Salts
Furazolidone
Trace Minerals
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Doty
RUNS THESE TESTS

We are fully equipped with modern facilities for the tests of the new feed additives as well as protein, fat, fiber, etc. We check your feed potency regularly at low cost.

USE OUR LABORATORY
PROTECT YOUR QUALITY

With Our Low-Cost Ingredient Assay Plan

Your feeds can be labeled "Laboratory Controlled" at remarkably low cost to you. Write or call for full particulars.

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TECHNICAL LABORATORIES
8 W. 9th St., Kansas City, Mo.

Question:
Who sells Dow Methionine for healthier, handsomer animals?

Answer:
BOWMAN FEED PRODUCTS, INC.
Holland, Mich.

otherwise might be lost. Introduction of some of the newer ingredients into the feed mill also increases the importance of dust control from the standpoint of safeguarding workers against health hazards.

The firm was incorporated on June 18, 1907. Its first board of directors were H. L. Day, president; Frank H. Day, vice president, and William Day, secretary and treasurer.

In 1914, crippled severely by arthritis, the founder began to withdraw from the growing company, and opened an office for his personal use in downtown Minneapolis.

In 1927, at the age of 72, H. L. Day, one of the pioneers who contributed so much to the improvement and safety of flour milling, died.

The present management has A. B. Osgood as president and R. E. Gorgen as sales manager.

Day Co. has plants in Minneapolis, Buffalo, New York and Ft. Worth, as well as affiliation with Day Co., Ltd., Canada. It has expanded its manufacturing to serve the bulk-material handling and bulk conveying fields.

FIRE DAMAGES STORE

TROY, N.Y.—A night fire in the retail feed store of Troy Feed & Supply Co., Inc., 2600 Sixth Avenue, destroyed the interior of the office and sales room. Cause is believed to have been defective wiring. Prompt action of firemen prevented the flames from spreading to the large feed warehouse and mill part of the building. Harry Kahler of Dean & Lee, Inc., Horseheads (N.Y.) feed manufacturer, and president of the Troy firm, said that business is continuing as usual in a smaller office space at the mill.

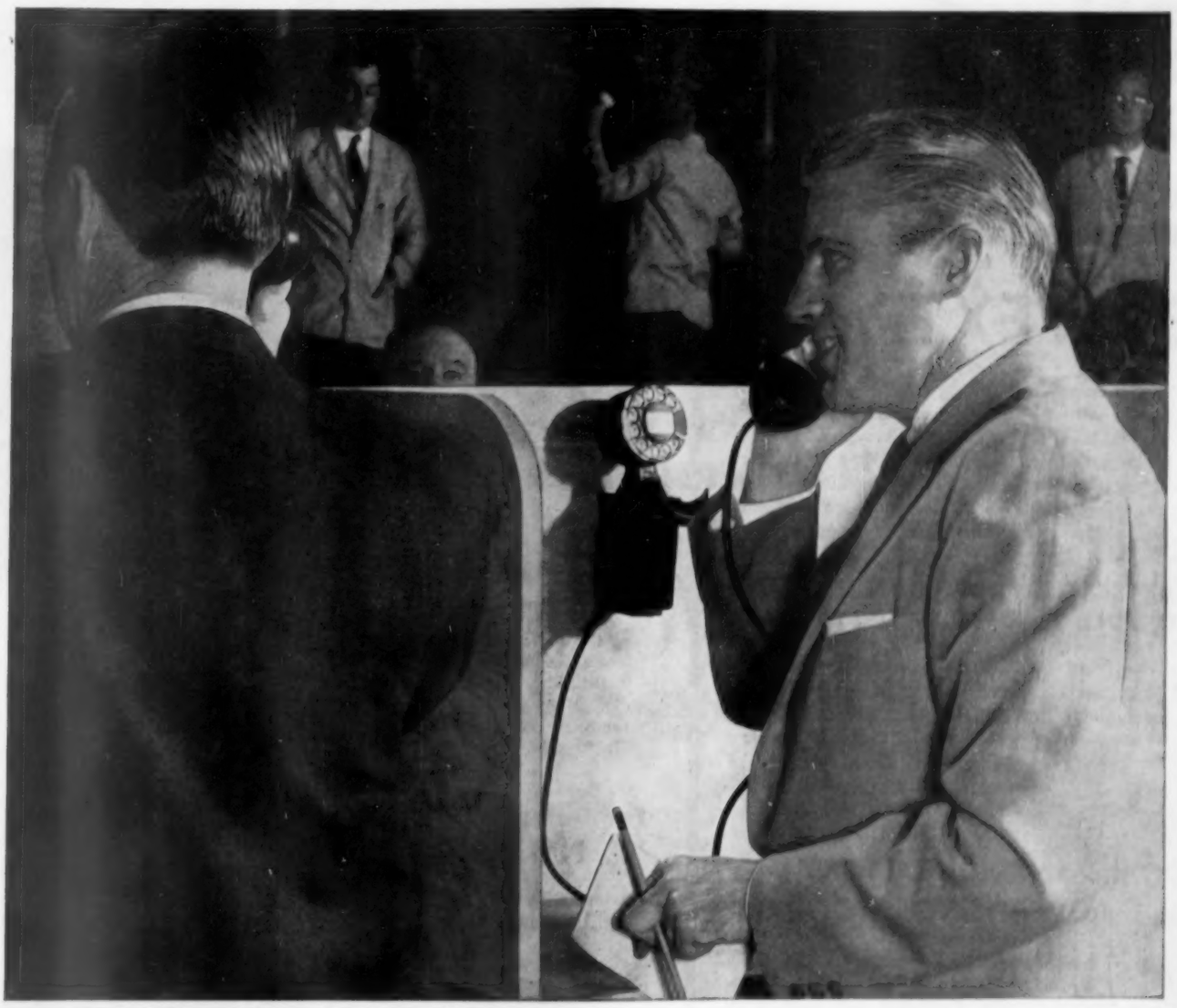
Foxbilt Operating South Dakota Plant

DES MOINES—Foxbilt, Inc., Des Moines, has taken over the facilities of the Sharp Milling Co. at Sioux Falls and will operate the plant under its name, Foxbilt Feeds.

Foxbilt will use the plant for the manufacture of its formula feed line as well as for distributing its line of premixes and formula feeds in South Dakota and northwest Iowa and southwest Minnesota.

D. E. Peck, sales promotion manager, said the operation of these facilities was brought about by expanding sales in the area.

DOW
Methionine
Get it in the Midwest from
Carroll Swanson Sales Co.
620 D. M. Bldg., Des Moines, Ia., Tel. CH 4-6177



Good ingredient buy coming up!

grab it—BUT RECHECK METHIONINE REQUIREMENTS TO PROTECT FEED EFFICIENCY

A broker's eye is quick to spot a good ingredient buy. To keep costs down, yours and your customers, you'll want to grab it quick. But, remember—natural methionine content varies from feedstuff to feedstuff.

As you know, it isn't the amount of protein in a formula that counts. *It's the amino acid make-up of that protein.* That's why practically every registered poultry feed formula now includes methionine supplementation.

That's also why it is important to *recheck methionine requirements* whenever you alter the energy content of a formula or interchange feedstuffs of equal energy. Dow Methionine supplementation helps you maintain the correct protein-calorie ratio. It gives you greater versatility in choice of high-energy ingredients of relative nutritive value. It keeps your feed quality up to standard—*and your costs in line.*

For complete information on how methionine can help you reduce ingredient costs without impairing feed efficiency, write THE DOW CHEMICAL COMPANY, Agricultural Chemical Sales Department, Midland, Michigan.

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NEWS
... from the laboratories of Dr. LeGear

A New Rumen Inoculum to IMPROVE YOUR CATTLE FEED

... INCREASE YOUR PROFITS

Easy To Custom Mix ... Gives Cattle

- FASTER WEIGHT GAINS
- BETTER DIGESTION

DR. LEGEAR'S

BOVEXTRA

Proper rumen function gives cattle full feed utilization with no digestive upsets. That's the job BOVEXTRA does. BOVEXTRA supplies billions of bacteria to the rumen where they go to work aiding digestion and turning feed into valuable meat and milk. Weight increases are fast with little danger from many types of scours.

CATTLE GO FROM RANGE TO FULL FEED IN 8 TO 12 DAYS

When cattle are switched from a grass diet to grain, the conversion can be made swiftly and safely with BOVEXTRA. Just mix BOVEXTRA in the feed and within 8 to 12 days the complete change-over is accomplished. This cuts 3 to 4 weeks off marketing time and permits uniform marketing since slower cattle fatten at a faster rate.

DOMINANT EDUCATIONAL and ADVERTISING PROGRAM

Every month readers of publications like MIDWEST FARM PAPERS, HOARD'S DAIRYMAN and PROGRESSIVE FARMER will read about BOVEXTRA. In addition, an aggressive sampling and educational program is being directed to farmers of the future and other farm groups.

BULK MIXING IS FAST AND EASY

Add BOVEXTRA to your special formula or mix with commercial feed to improve the rumen function and aid digestion. Where mixing facilities are not available BOVEXTRA may be sold to spread on top of feed or added to agitated drinking water. Watch BOVEXTRA produce results ... cattle put on top grade finish in less time, bringing higher market prices for the feeder.

For Dairy Cattle ... NU-CUD

This scientifically developed rumen inoculum supplies the bacteria to bring dairy cattle to top condition and keep them there. With proper rumen function, milk volume improves, better feed utilization occurs and digestive disorders definitely are reduced. NU-CUD gives calves a cud in 3 to 4 weeks permitting safe, early grain feeding.

NU-CUD and BOVEXTRA are available in ½ lb., 2 lb., and 20 lb. packages.

Dr. LeGear Medicine Company • 4161 Beck Avenue
St. Louis 16, Missouri

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____ BOVEXTRA ____ NU-CUD

____ Please have salesman call.

Name _____

Firm _____

Address: _____

City _____ State _____

For 65 years ethical manufacturers of dependable animal health remedies.

DR. LEGEAR

MEDICINE CO.
ST. LOUIS 16, MISSOURI

Soy Meal Prices May Stay Near Current Levels

MINNEAPOLIS—Soybean oil meal prices during the next six months will remain at or near current price levels, with the trend toward the upside rather than the downside.

This prediction is made in a market letter by Fred H. Hafner, director of soybean oil meal sales for General Mills, Inc.

With the 1956 soybean crop the largest in history, soybean meal consumption will hit a new high, Mr. Hafner points out.

Meal Prices

He expects 300 million bushels of the total supply of beans to be processed during the 1956-57 year, and meal produced from this amount should be adequate to satisfy all demand. Consumption probably will be maintained at a high level, especially if the meal price remains somewhat near its present level ($40 bulk, Decatur, in the West to $44, bulk, Decatur, in the East). Some feed manufacturers, Mr. Hafner said, are altering their formulas to use more soybean meal.

Opportunities for speculative gains in meal will depend to a large extent on market action of soybean oil, Mr. Hafner said. A sharp advance in the price of this commodity could result in even lower meal prices than now prevail. A steady to lower oil price could result in a moderate price recovery in meal.

Mr. Hafner said he was hoping to see a gradual advance in the price of oil during the next six months, which would be reflected in a gradual advance in bean prices. He said stabilization of meal prices in the range of $45 ton, plus or minus $5, would be good for both the soybean processing industry and the feed industry.

Soybean prices, Mr. Hafner said, probably will advance to at least the loan level to farmers in various marketing areas. A price advance to the loan level should bring out soybeans all during the year in most areas.

In his outlook for the next six months, he also says that soybean oil prices will advance, offsetting most of the advance in bean prices. Meal prices, at the same time, are likely to remain near current levels, with the possibility of a trend toward the upside.

With the big crop, beans will be in surplus for the first time in history, and a carryover next September of 70 million bushels is predicted.

Heavy exports of the oil and beans are expected.

DISASTER AVERTED

NORTHFIELD, MINN.—Damage was held to less than $4,000 recently when fire started in the feed mill of the Northfield Farmers Cooperative Elevator. Good work by the fire department saved the mill, according to Leonard McCracken, elevator manager.

$750,000 Fire Hits Michigan Elevator

BRITTON, MICH.—A grain elevator fire in this rural village of Lenawee County caused an estimated $750,000 loss in grain and property recently.

Approximately 80,000 bu. of new wheat and soybeans were destroyed when fire consumed the elevator of J. J. Walper & Son, including five 90-ft. silos. Spontaneous combustion is believed to have been the cause of the blaze.

One of the five trucks operated by the company was saved, along with a $75,000 grain dryer. Otherwise, the fire consumed thousands of dollars worth of equipment along with company records.

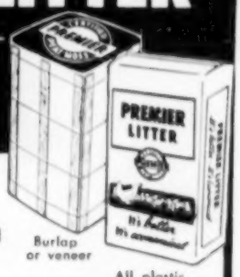
The loss was partially covered by insurance, according to Dalton Walper, head of the firm.

STORAGE SPACE BUILT

VOLGA, S.D.—A new steel grain storage building has been built here for Geo. O. Cotton & Son. The 125,000-bu. quonset-type structure is located between the Cotton elevators near Highway 14.

PREMIER PEAT LITTER

Premier absorbs up to 20 times its weight—
other materials absorb up to 5 times their weight
Premier absorbs up to 15 times more!



It is ABSORBENCY in litter that counts

- Absorbs quicker
- Saves work
- Lasts longer
- Final cost is less
- Resell as fertilizer
- Nationally advertised

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PREMIER PEAT MOSS CORP.
535 Fifth Avenue, New York 17, N. Y.

Burlap or veneer

All plastic inside & outside

We have . . .
Ray Ewing
PERFORMANCE
PRE-MIXES

Distributed in Arkansas, Oklahoma and Texas by
The Tommy Thompson Co.
3617 Dryden Road Fort Worth, Texas
Telephone: WAlnut 3-0005

INCREASE Your "Per Bag" Profit!

$ YOUR BRAND $

Mix Your Own Feed Brand with

BROWER Whirlwind FEED MIXER

Many feed dealers earn up to $1.50 profit per bag by mixing their own brand of feeds with the BROWER MIXER. The extra profits soon pays for the mixer. The "Whirlwind" mixes perfect blend in about 10 minutes — gives years of trouble-free service. Above and below-floor models. 8 sizes for mixing 700 to 4000 lbs. per batch. Write for details and prices.

BROWER MFG. CO. 404 N. Third St. Quincy, Illinois

World's Largest Selling Mixer!

It pays to DISPLAY

PILOT BRAND

OYSTER SHELL

Featured on 70 outstanding Radio Stations and in leading Farm and Poultry Journals. PILOT BRAND Oyster Shell has been Nationally Advertised for over 30 years.

Through this consistent publicity, your customers know all about PILOT BRAND. They know of its superior, dependable quality—its pure, clean, 100% usability—its low cost per usable pound. They're told to "Look for the Bag with the Big Blue Pilot Wheel".

Cash in on this universal customer-acceptance. Always stock PILOT BRAND Oyster Shell. And keep a couple of bags of PILOT BRAND prominently displayed in your store. That's the way to get your full share of the profitable year-'round PILOT BRAND business.

ORDER FROM YOUR DISTRIBUTOR—OR WRITE TO US

FOR POULTRY

PILOT BRAND OYSTER SHELL

Oyster Shell Products Corp.

New Rochelle, N. Y. St. Louis 9, Mo.

Farm Journal

Latest on ENZYME pig feed

It may be the biggest nutritional discovery since antibiotics, scientists believe. It'll be on the market within the next 60 days

LAST-MINUTE REPORT, CENTRAL STATES

LAST month we told you about cutting the cost of baby pig feed 25% by adding a protein-digesting enzyme called pepsin.

Here are the latest developments:

▶ American Cyanamid Co., producers of the antibiotic, Aureomycin, confirmed last week that it has been appointed sole distributor to the feed industry of the enzyme pepsin, now in their enzyme... fed group averaged 31 pounds at five weeks.

A neighbor, Emery Hoegh, believes the pepsin will make early weaning practical for him. He tried it two years ago, but quit. Last month he weaned 70 pigs when they were two to three weeks of age. The first ones to reach 6... weeks have been... conditions. It keeps him growing and gaining."

In tests at the Walnut Grove research farm, pepsin boosted gains 29% and produced pork on 6% less feed when added to rations containing various levels of milk products.

In the Iowa State ... *Journal* reported ... used the en...

WALLACES' FARMER

Baby ... on *En...*

PIGS under five weeks ... have enough digestive ... break down vegetable pro...

But if pepsin, a prot... enzyme, is added to the ratio... almost as fast on vegetabl... on milk protein. That's p... ration is otherwise well ba...

These discoveries—anno... week by the Iowa State Co... nutrition staff headed by ... Catron—point the way to ch... pig feeds.

Soybean oilmeal now can... stituted for higher-priced n... tein in pre-starter and ...

In the past, ... that ...

Enzyme feeding of baby p...

Cyanamid makes pepsin, the protein-digesting...

PEP...

FEED...

CYANAMID

pigs short
zymes!
Cost of baby pig feeds can be reduced by addition of pepsin
Enzymes for baby pigs?
Here are answers to questions about the latest idea in baby pig feeding
Feed enzyme this fall?
Farmers are questioned about plans for feeding fall pigs
igs is big news!

g enzyme, available to feed manufacturers as

-SWIN*

GRADE PEPSIN

Many of the leading farm publications have carried news stories about the remarkable results obtained by feeding the enzyme pepsin to young pigs.

PEP-SWIN is a feed grade concentrate of the enzyme pepsin. This is the product used by Dr. Damon Catron and his associates at Iowa State who discovered and developed pepsin feeding. Five pounds of PEP-SWIN per ton of feed supplies the amount of pepsin recommended by Dr. Catron for pigs up to 5 weeks of age.

PEP-SWIN is a white, free-flowing powder without significant taste or odor. It is available to feed manufacturers exclusively from Cyanamid. It is packed in 50-pound, polyethylene lined fiber drums.

Write for our product information. American Cyanamid Company, Animal Feed Department, 30 Rockefeller Plaza, New York 20, N. Y.

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Get SPROUT-WALDRON's

Big Plus when you go bulk!

SPROUT-WALDRON FEED PIPER

The *Original* Pneumatic Bulk Truck

Pipes feed by air through a flexible steel hose to any bin...fast. Has almost unlimited "reach" and "lift." Handles mashes... pellets...and flaked, rolled, or whole grains, with or without molasses. Multiple compartments permit different feeds to be carried in same load without intermixing. A self-loading device (optional) makes possible two-way pay loads. Models available with capacities from 385 to 1350 cu. ft. Normally, capacities over 678 cu. ft. come in semi-trailer units.

Feed Piper is a trademark of Sprout-Waldron & Co., Inc.

SAVE MONEY! SAVE TIME! SAVE TROUBLE!

In every way, you'll save in the **end** when you **start** planning your own bulk delivery system through Sprout-Waldron. **Only** Sprout-Waldron offers the **BIG PLUS** values that are absolutely vital for a money-making, money-saving bulk system.

At Sprout-Waldron you have the widest possible selection of the most advanced pneumatic bulk trucks and all necessary auxiliary equipment...

PLUS expert engineering counsel and guidance on your bulk handling requirements as well as on installations for your customers...

PLUS personal instruction on maintenance and operation...

PLUS a dependable source for spare parts...

PLUS fast service for major repairs...

PLUS a reliability based on 90 years of service to the feed industry.

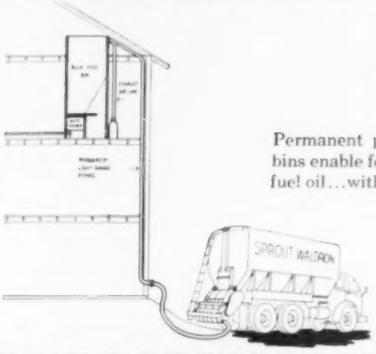
Sprout-Waldron's **BIG PLUS** advantages have put hundreds of feed millers in the bulk business on a profitable, more competitive basis. They can prove it pays to go bulk via Sprout-Waldron. Ask them. Names on request. And for more complete details on Sprout-Waldron bulk feed delivery equipment, write for Bulletin 156 today.

Feed Piper Conversion Unit

Makes your present truck a bulk truck with a pneumatic unloading system. Has the unloading advantages of the regular Feed Piper Bulk Truck. Enables you to meet bulk competition at low cost. Can be assembled and installed on do-it-yourself basis if desired.

Bulk Receiving Stations

Designs, engineering services, and major equipment for bulk feed receiving and distributing stations are available through Sprout-Waldron. Such stations can be located at RR sidings remote from the mill.



Permanent Pipe Installations

Permanent pipe installations to farmers' bins enable feed to be delivered as easily as fuel oil...without dusting Sprout-Waldron provides—without cost—guidance and complete information.

Free Sales Aids

Booklets on farm bins and on Feed Piper service and mats for newspaper ads are available for you to use in promoting bulk business locally. They help put you on a big-volume, profitable basis quickly.

PELLET MILLS • HAMMER, ROLLER, ATTRITION, AND BURR STONE MILLS • MIXERS • SCREW, BELT, AND PNEUMATIC CONVEYORS • BUCKET ELEVATORS • CUTTERS, CRUSHERS, AND FEEDERS • REELS, SEPARATORS, AND ASPIRATORS • BULK FEED TRUCKS • PERMAGLAS STORAGE STRUCTURES • BUHLER BROTHERS FLOUR MILLING EQUIPMENT

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SPROUT-WALDRON

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Exclusive Canadian Distributors: **Strong-Scott, Limited, Winnipeg**

GMA

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Tom C. Campbell

PRODUCTION ENGINEER — The new Chattanooga plant production engineer for Central Soya Co. is Tom C. Campbell, according to a recent announcement by R. W. Fay, plant manager. Mr. Campbell attended Tennessee Polytechnic Institute and Georgia Tech and in 1946 was graduated from the U.S. Military Academy at West Point. For the past five years he has been with Whitney Chain Co., Atlanta.

Toledo Feed Club Elects New Officers

TOLEDO, OHIO—Roy H. Ploeger, Chase Bag Co., was elected president of the Toledo Feed Club at a dinner meeting held Oct. 8 at the Ritz Nite Club.

Other officers elected include: Louis R. Brewster, General Mills, Inc., soybean division, Rossford, Ohio, vice president, and Fred W. Duncan, Metamora (Ohio) Elevator Co., secretary-treasurer.

Directors, elected to a two-year term, include: Charles H. Smith, William W. Rixey, Jr., L. J. Schiller, Marvin H. Rohloff and A. G. Mardegian.

Directors, whose terms expire in 1957, include: John B. Wilson, Jr., Jack E. Conboy, Joseph B. Cousino, A. E. Schultz, Don M. Mennel, R. J. Forrester and Roland Turnow.

It's CANADA Brand

LITTER

The ideal merchandising product for speedy turnover. Packed in plastic-lined bags for safe storage—convenient handling. Consistently top quality. Large stocks available for quick deliveries.

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Poultry Market Study Planned in Colombia

WASHINGTON—The U.S. Department of Agriculture has announced that a survey of the potential market for poultry and eggs in Colombia will be made in cooperation with the U.S. poultry industry.

Four poultry specialists, two representing USDA and two representing the poultry industry, will go to Colombia to discuss with government officials plans for increasing Colombian purchases of canned and frozen poultry, shell and hatching eggs, and baby chicks from the U.S.

Colombia, which imported 1,250,000 lb. of canned poultry from the U.S. during a short period in 1954 when it temporarily lowered its import barriers, is a potentially large, long-time market for U.S. poultry and poultry product producers. Its own production is insufficient to meet consumer demand.

The survey of Colombia's poultry industry and of the potential market there is being undertaken through an agreement between USDA and the Institute of American Poultry Industries. Under Title I of Public Law 480 a portion of local currency received in payment for U.S. surplus commodities may be used for foreign market development.

The specialists who will go to Colombia are C. C. Warren, marketing specialist in the Foreign Agricultural Service's dairy and poultry division; Dr. R. E. Omohundro, head of the poultry disease section of the Agricultural Research Service's animal disease eradication branch; R. T. O'Connell, Kansas City, Mo., representing the American Poultry & Hatchery Federation, and Lee Campbell, Chicago, representing the Institute of American Poultry Industries.

Colombia is the third country chosen for on-the-spot market development work under the agreement between USDA and the poultry industry. A program is now in operation in Western Germany, and a survey has been made in Italy.

Pittsburgh Plate Glass Co.
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MEAL SALES — 424 Flour Exchange Bldg., Minneapolis 15
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Dog Food Mixers!

G-AN-EN appetite appeal means sales appeal... better business for you!

A real sales-boosting food supplement . . .

G-AN-EN adds unequalled sniff appeal . . . "magnetic" aroma dogs simply can't resist. G-AN-EN follows through with *flavor* that sets any dog's tail to waggin' and eyes to pleadin'—characteristics that add up to customer satisfaction.

G-AN-EN is economical to use . . .

Just 5% G-AN-EN provides the appetite-rousing characteristics your customers want. It's a concentrated blend of nutritious products specially picked for tempting taste, "nose" appeal and food value: dried whole whey, dried buttermilk, cheese rinds, brewers' dried yeast, vitamin A and vitamin D_2 feeding oil, stability improved, niacin, sulphates of iron, zinc, copper and manganese chloride. Put extra values like these in your dry mixes . . . enjoy customer satisfaction . . . repeat business!

G-AN-EN adds vitamins, proteins, minerals!

G-AN-EN has all these extra food elements to help balance canine diets:

6 vitamins. G-AN-EN contains vitamins A and D_2 feeding oil, stability improved, B_1, riboflavin, niacin (the anti-black-tongue factor), and pantothenic acid.

6 minerals. G-AN-EN contains valuable milk minerals, calcium and phosphorus, *plus* the mineral salts, copper, iron, zinc and manganese chloride.

Milk protein. The milk protein in G-AN-EN contains all the essential amino acids in the milk proteins lactalbumen and casein.

Comes in handy dry form, fits ANY mix formula!

You'll find G-AN-EN is quick and easy to blend. It's packed in 50-lb. bags. Order G-AN-EN from Kraft Foods Company, 500 Peshtigo Ct., Chicago 90, Illinois.

Worth Looking Into

New Products
New Services
New Literature

This reader service department announces the development of new and improved products, new services and new literature offered by manufacturers and suppliers. Claims made in this department are those of the firm concerned. Use the accompanying coupon to obtain the desired information.

No. 5573—Lift Gate

The Anthony Co. announces that a light weight lift gate model is now available for larger trucks handling light, bulky loads. The gate has a loading area of 82 by 30 in. and a lifting capacity of 1,000 lb. One hydraulic cylinder does the lifting and lowering and is powered either by a battery driven pump or

a power take-off and pump combination. Loading and unloading can be done from the side even at curb level. The lifting and lowering operations are controlled by one lever from either side of the truck. The gate stops automatically at ground and truck floor levels or can be stopped and held at any intermediate height. For more information on the lift gate, send for the new folder, "Automation For Transportation." There is no obligation. Check No. 5573 on the coupon and mail it to this publication.

No. 5562—Swine Salt

New literature concerning the Hardy Salt Company's product, called by the trade name Super-Trace swine salt, with extra zinc, for parakeratosis control, has been prepared and is available without obligation. The literature reports on the research work done at various universities on parakeratosis. According to company officials, "the conclusion is that parakeratosis can be prevented by supplementing the ration with sufficient zinc and keeping the calcium intake as close as possible to the National Research Council's recommendations." The officials state that Hardy's new product contains "one hundred times the amount of zinc that is found in the usual trace mineral salt formulas." Secure more complete details by checking No. 5562 on the coupon and mailing it to Feedstuffs.

No. 5580—Worm Product

A new anti-parasite formula called by the trade name, "Self-Wormer," has been introduced by the Anchor Serum Company of Indiana, Inc. The product mixes with any ground feed, blending to the same consistency as the grain so that stock cannot separate it from the feed. The company announcement states that the product is "completely palatable, delivers a full therapeutic dose of phenothiazine, the most efficient worm-killer known." It adds that administration

is eased by "disguising the phenothiazine in flavored nutrients that the cattle instantly accept and like. Round-ups and individual treatments are completely eliminated, with the attendant dangers of injury to man or animal or the likelihood that the stock will be thrown off their feed by the shock of the experience. One man can mow worm entire herds with minimum effort, in minutes or hours depending on the size of the herd. The product is free-flowing, simple to mix and dustless; it does not sift or settle." One treatment with the new formula effectively destroys blood-sucking worms, killing adult parasites and rendering the egg sterile, it is claimed. Secure more complete details by checking No. 5580 on the coupon and mailing it to Feedstuffs.

No. 5581—Egg Facts

Facts on the health-giving properties of eggs are popularized in a new 4-page leaflet, "Eggs—Nature's Masterpiece of Balanced Nutrition," which the Poultry and Egg National Board has published as part of its promotional program on eggs. The leaflet is for sale in quantity lots. It is printed in yellow and black on white and is illustrated with modern, stylized art re-emphasizing the theme that eggs build splendid health. Space is reserved at the bottom of page 4 for imprinting, but the folder is designed for distribution with or without the buyer's name imprinted. For price and other information check No. 5581 on the coupon and mail it to Feedstuffs.

No. 5569—Egg Leaflet

Tobias Enterprises has prepared a leaflet, "How to Tell a Good Egg," designed to tell the consumer what to look for in egg quality. A single copy of the leaflet is available without charge and quantity prices will be quoted by the company. Prices do not include the cost of imprinting a firm name on one side of the leaflet. More complete details may be secured by checking No. 5569 on the coupon and mailing it to Feedstuffs.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 5521—Bulk feed body, Simonsen Manufacturing Co.

No. 5522 — Flavor ingredient for phenothiazine-treated salt, International Salt Co.

No. 5523—Poultry water and feed product designed to aid growth and protect against disease, American Cyanamid Co.

No. 5524 — Feed, seed and grain handling equipment, King & Hamilton Co.

No. 5525—Feed bin design, Sprout, Waldron & Co., Inc.

No. 5526—Feed body for bulk and sacked feeds, Simonsen Manufacturing Co.

No. 5527—Vacuum cleaner for industrial use, Burrows Equipment Co.

No. 5528—"Free-running" salt process, Morton Salt Co.

No. 5529—Cleaners and scalpers for soybeans, S. Howes Co., Inc.

No. 5530—Booklet describing Christie's Spizzerinktum New Hampshires, Granite Whites and White New Hampshires.

No. 5531—Farm and dairy cleanser, Pennsylvania Salt Manufacturing Co.

No. 5532—Portable formula feed blender, Barnard & Leas Manufacturing Co., Inc.

No. 5533—Antibiotic, vitamin and mineral product for swine feed or drinking water, American Cyanamid Co.

No. 5534—Poultry and livestock disease treatment with nitrofuran drugs, Hess & Clark, Inc.

No. 5535—Brochure on bolted steel tanks, Columbian Steel Tank Co.

No. 5536—Valve bag packer using fluidizing principle of conveying material, Black Products Co.

No. 5537—Rodent control unit, Solvit Chemical Co.

No. 5538—Public storage plan for warehousing alfalfa pellets under inert gas pressure, Grain Elevator Warehouse Co.

No. 5539—Stream splitter for dividing single stream of dry, free-flowing material, Sprout, Waldron & Co., Inc.

No. 5540—Booklet on high-level antibiotic feeding, Commercial Solvents Corp.

No. 5541 — Phenothiazine wormer for cattle and sheep, VyLactos Laboratories, Inc.

No. 5542 — "Pallet bag" for "squared-off" appearance, St. Regis Paper Co.

No. 5543—Poultry feed additive, Heterochemical Corp.

No. 5544 — Dauber lid for screw worm smear containers, Dr. L. D. LeGear Medicine Co.

No. 5545—Dairy cattle feeding program, Pillsbury Mills, Inc.

No. 5546—Bulk delivery of molasses feed, Baughman Manufacturing Co.

No. 5547—Vitamin D product for treatment of milk fever in dairy cattle, Silmo Chemical Corp.

No. 5548—Grain shovel devices, Foster & Felter Co.

No. 5549—Counter display for self-service of nf-180 tablets, Hess & Clark, Inc.

No. 5550 — Bulk feed tank with 2½-5 ton capacities, Martin Steel Products Co.

No. 5551—Dog food, Vitality Mills, Inc.

No. 5552—Water tube boilers, Nebraska Boiler Co., Inc.

No. 5553—One-man push button loading of boxcars and trucks, R. T. Sheehan Co.

No. 5554—Liquid compounded fat for alfalfa dehydration and feed mixing, Swift & Co.

No. 5555—Feed fortification product, New England By-Products Corp.

No. 5556—Pneumatic feed mover, Dunbar Kapple, Inc.

No. 5557—Booklet on vaccination of poultry, Dr. Salsbury's Laboratories.

No. 5558—Hammer Mill, Myers-Sherman Co.

No. 5559—Feed supplement for swine, cattle and sheep, American Cyanamid Co.

No. 5560—Display bag frame for showing empty feed bags on counters, windows, Bag Display Co.

No. 5561—Attrition mill, Strong-Scott Manufacturing Co.

No. 5563—Water soluble antibiotic products, Amburgo Co.

No. 5564—Calf manual and guide

Send me information on the items marked:

- ☐ No. 5562—Swine Salt
- ☐ No. 5569—Egg Leaflet
- ☐ No. 5573—Lift Gate
- ☐ No. 5581—Egg Facts
- ☐ No. 5580—Worm Product

Others (list numbers) .....

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COMPANY .....

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CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

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E. A. Yutzi

SALES MANAGER — E. A. Yutzi, Georgetown, Del., has been named regional sales manager for Fair-Acre feeds in the Delmarva Peninsula and central Maryland, it has been announced by Lindsey-Robinson & Co., Inc., Roanoke, Va. He will supervise the work of district sales managers and farm service agents, and coordinate their efforts to serve the livestock and poultry industry through franchised Fair-Acre dealers. Mr. Yutzi received his B.S. degree in agriculture from Ohio State University after which he taught vocational agriculture for several years. He then moved to the Delmarva area where he was sales representative for a Cincinnati feed company for 20 years before joining Fair-Acre in August.

to raising young animals, Blatchford Calf Meal Co.

No. 5565—Fats in feeds, National Renderers Assn.

No. 5566—Pre-fabricated cage layer house with automatic ventilation, Permco Manufacturing Co.

No. 5567—Size reduction pulverizer, Strong-Scott Mfg. Co.

No. 5568—Niacin applications in animal nutrition, Tar Products Division, Koppers Company, Inc.

No. 5570—Folder on stabilized animal fats in feed rations, National Renderers Assn.

No. 5571—Complete package feed mill unit, Jacobson Machine Works.

No. 5572—Flow diagram for the Kansas State College's feed school, Paul O. Berg.

No. 5574—Animal health line promotion, Chas. Pfizer & Co., Inc.

No. 5575—Feed flavor for use at point of delivery, Flavor Corporation of America.

No. 5576—Cottonseed meal abstracts, National Cottonseed Products Assn., Inc.

ADM Elects New Board Member

MINNEAPOLIS—The election of John D. Farrington to the board of directors of the Archer-Daniels-Midland Co. has been announced by Thomas L. Daniels, ADM president. Mr. Farrington, chairman of the board of the Chicago, Rock Island & Pacific Railroad, was elected at the recent ADM annual stockholder meeting.

Born and educated in St. Paul, Mr. Farrington began his railroad career in 1910 with the engineering department of the Great Northern Railroad. Later he joined the Chicago, Burlington & Quincy Railroad. From 1931 to 1936 he served as general manager of the Fort Worth & Denver City Railroad. In 1936 Mr. Farrington joined the Rock Island as chief operating officer and in 1942 was appointed chief executive officer while the railroad was in trusteeship. He was elected president of the new corporation in 1948 and early this year was elected chairman of the board.

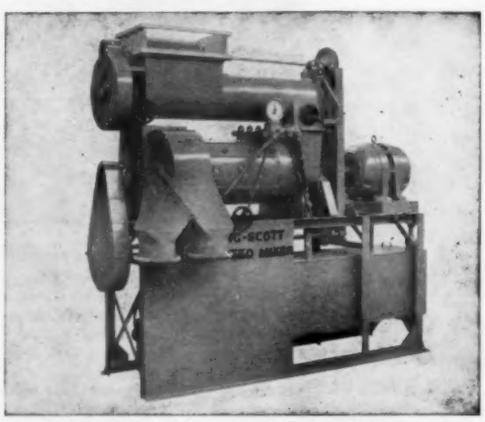
NEW FEED MILL

NORTH BRANCH, MINN.—A new feed mill has been installed at the Hilltop Feed Store here. The old grinding equipment was dismantled and all the machinery was replaced with a new and larger mill, a new pit, drag, motor and controls.

Advertisement

NEW PRODUCT NEWS

HIGHER MOLASSES APPLICATION WITH GREATER EFFICIENCY

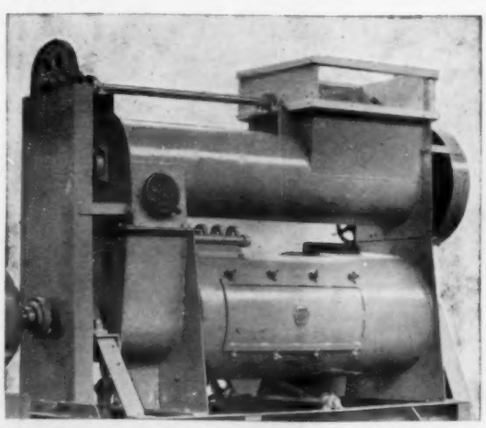


The quality construction of the No. 1 and 2 Molasses mixers guarantee economical operation and low maintenance costs. A removable panel permits fast cleaning. Double sacking discharge. As an added safety feature all moving parts are guarded.

HIGH MOLASSES PERCENTAGE FEEDS AND GREATER EFFICIENCY AVAILABLE THROUGH HIGH SPEED MIXING

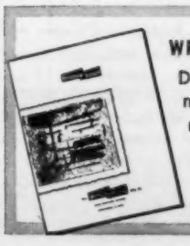
As a result of high speed agitation in the Strong-Scott No. 1 and 2 Molasses Mixers, you can apply up to 85% molasses to the feed, and yet obtain a thorough mix, evenly and accurately blended, free of balling. A unit operating under these actual conditions has been performing satisfactorily for more than a year. Capacities up to 12 tons per hour are common because of this higher speed operation.

A 100-gallon molasses supply tank with an electrical heating unit, a regulator controlling molasses flow, and a molasses meter, are but a few of the special features of these mixers.



Dry feed and molasses enter the mixing chamber simultaneously through separately controlled feeding systems. One motor operates the dry feeder, mixing agitator, and the molasses regulator. This feature cuts power costs in half and assures accurate control of all ingredients.

The above No. 1 mixer is operating at the Elkader Coop., Elkader, Iowa. A constant molasses supply is maintained and insured by an automatic float control system within a temperature controlled molasses tank. All this in minimum space through Strong-Scott design.



WRITE FOR FREE COLOR BULLETIN

Detailed information on the equipment shown above will be sent on request. Simply drop a card or a letter to the Sales Department at the Strong-Scott Mfg. Co. 451 Taft Street, Minneapolis 13, Minnesota.

The Strong Scott Mfg. Co.

Equipment Designed for Better Processing

451 TAFT STREET, MINNEAPOLIS 13, MINN.

Dept. FS-1027

SPECIALIZED SESSIONS PLANNED—Several specialized sessions will be a highlight of the Midwest Feed Production School, to be held Dec. 3-5 at the Muehlebach Hotel under the sponsorship of the Midwest Feed Manufacturers Assn. These sessions will be in addition to the reports on a feed production cost study, and they will be scheduled so that each person at the school will be able to attend all sessions. In the above picture are chairmen of six specialized sessions. Left to right are Ed Gookins, Quaker Oats Co., St. Joseph, Mo., warehousing and shipping session; Lowell Judd, Albers Milling Co., Kansas City, proportioning and bin flow and assembling; James Leker, Staley Milling Co., Kansas City, air handling; James McNeil, Pillsbury Mills, Inc., Minneapolis, pellet mill operation; Larry Alley, Pay Way Feed Mills, Kansas City, feed additive handling; Robert Seamon, Maritime Milling Co., Buffalo, packaging.

In addition to six other specialized sessions, the Midwest Feed Production School will devote one complete evening session to a discussion of application of liquids to feeds. The panel members and speakers for this session are shown in the picture above. Left to right are Forest Lipscomb, Jr., Lipscomb Grain & Seed Co., Springfield, Mo.; Richard Lucas, Walnut Grove Products Co., Atlantic, Iowa; Robert Bryant, Victor Chemical Works, Chicago; Oak Smith, Wenger Mixer Mfg. Co., Sabetha, Kansas; Joseph Sloan, Cosby-Hodges Milling Co., Birmingham, Ala., and Willard Rogerson, Vy Lactos Laboratories, Des Moines, Iowa. Additions of phosphoric acid, fats, fish solubles and other liquid ingredients will be discussed, and equipment will be set up for actual demonstrations. The school will be held Dec. 3-5 at the Muehlebach Hotel in Kansas City. Enrollment so far this year has come from 40 states and Canada.

Camera Views of the News

PENNSYLVANIA DEMONSTRATION—A demonstration by a "Feed Piper" truck of actual loading and unloading of bulk feed was conducted by the manufacturer, Sprout, Waldron & Co., Muncy, Pa., during the recent convention of the Pennsylvania Millers & Feed Dealers Assn. The truck was set up in a parking lot right beside the meeting site at Reading, Pa.

SALES EXECUTIVES ATTEND SCHOOL—Representatives of the formula feed and allied industries in attendance at the recent 4th annual session of the National Sales Executives' Graduate School of Sales Management & Marketing, Rutgers University, are shown at one of the school sessions. Seated (left to right): Morris E. Fonda, general sales manager, Harvestore products, A. O. Smith Corp.; Thomas L. Winnemiller, merchandising director, Hess & Clark, Inc.; Sterling Brackett, animal industry applications director, American Cyanamid Co.; David R. Ross, vice president and general sales manager, Nutrena Mills, Inc.; Hugh M. Hughes, assistant sales manager, Beacon Milling Co., Inc.; A. G. deMeurisse, assistant sales manager, Barrett division, Allied Chemical & Dye Corp. Standing (left to right): Francis M. Jornlin, sales manager, nitrogen products, E. I. duPont de Nemours & Co., Inc.; James S. Wolff, field sales manager, general chemicals, B. F. Goodrich Chemical Co.; Robert E. Miller, assistant sales manager, Beacon Milling Co., Inc., and Louis W. Chenault, sales manager, Bemis Bro. Bag Co. In the school, representatives study subjects which will train them in applying effective principles of sales management to their own company's sales department activities.

CHALLENGE ISSUED—Frank J. Lausche, Ohio's governor, and representatives of the Ohio Turkey Assn. are shown above as they issued a challenge to all other state governors and state turkey associations to participate in the 1957 Heaviest Turkey Contest. The contest will be held in connection with the National Dressed Turkey Show and National Turkey Federation Convention in Cincinnati Jan. 8-10. From left to right are Emil Malinovsky, extension poultryman, Ohio State University, Columbus; Kenneth Bowman, president, Ohio Turkey Assn. and chairman National Dressed Turkey Show Committee for 1957, New Carlisle; G. S. Vickers, Ohio Poultry Improvement Assn., Columbus; Gov. Lausche; Howard E. Wildey, secretary, Ohio Turkey Assn., Columbus; Bruce R. Davisson, Ohio Poultry Council, Columbus. A 32-lb., oven-ready turkey was presented to Gov. Lausche as a miniature example of the bird Ohio will have ready for the contest.

DIVISION MANAGERS—Charles A. Green (center), for more than 20 years manager of the feed and seed divisions of the Pennsylvania Farm Bureau Cooperative Assn., Harrisburg, Pa., explains department functions to his successors, John L. McCormick (left) and Henry F. Dixon (right). Mr. Green has been named special assistant to George G. Connor, executive vice president and general manager. Mr. McCormick will head the feed division. He has been with Pennsylvania Farm Bureau since 1950, when he joined the feed division as western Pennsylvania feed fieldman. He previously was with the Westmoreland Farm Bureau. Mr. Nixon, the new manager of the seed division, has been with the organization since 1947.

USDA Develops New Method To Measure Fat

WASHINGTON—U. S. Department of Agriculture researchers have determined how much fat an animal has by putting the animal to sleep with certain anesthetics and correlating the length of their sleep with fat content.

Determination of fat in the intact living animal by this unique method holds potential significance in beef and pork marketing, USDA says in a recent issue of its Agricultural Research publication.

It has been found that the shorter the sleep, the more fat in the animal.

"Earlier work elsewhere," USDA explains, "had shown that fat tissue has a high affinity for certain brief-acting chemicals of the thio-barbiturate group, such as Thiopental and Kemithal. Their brief action, it was found, was due not to rapid destruction but to their localization in the fat depots of the body. Further experimental work bore this out with tests showing that fat rats recovered from Thiopental and Kemithal anesthesia nearly twice as fast as lean rats. Semi-starvation also was shown to prolong the slumber time of test animals under this anesthesia; animals had, of course, less body fat after semi-starvation."

With this information, USDA researchers Louis Feinstein and F. J. Fulmine began experimentally administering these two sleep-inducing drugs to pigs. The work showed a high correlation between sleeping time and fat content.

A precise method of measuring relative proportions of bone, muscle, and fat in live animals has long been sought. Many methods have been tried, with varying degrees of success. Such information can provide a basis for better selective livestock breeding. It also can provide information on changes occurring during growth and fattening, and give a better index of sales value by providing accurate grading of animals before slaughter.

USDA said Kemithal and Thiopental anesthetics, now in experimental use, have a big advantage over certain other methods in that they provide a completely independent method of determining fat directly in a living, intact animal. Other methods have included measurements of body density and total body water.

In the experiments with pigs, preliminary work got under way in 1954 with pigs receiving injections of Kemithal and Thiopental at various times. Time was noted when the test animal went to the floor after losing its ability to stand on its two front feed. The period between collapsing and again standing on its front feet was called the sleep period. This varied up to a maximum of one hour, depending on amount of anesthetic and fat content of the animal. The amount of anesthetic varied with the animal's weight.

Growth-weight curves were obtained to be sure the animals were not growing abnormally because of frequent sleep times. During growth, from weaning to slaughter, the animals were given the anesthetics many times. Each animal promptly went back to eating right after righting itself following the sleep.

Follow-up experiments also have been conducted.

Illinois Cattle Research To Be Reported Nov. 2

URBANA, ILL.—Research reports from staff members at the University of Illinois will be a feature of the 28th annual Illinois Cattle Feeders Day to be held Friday, Nov. 2, at the university.

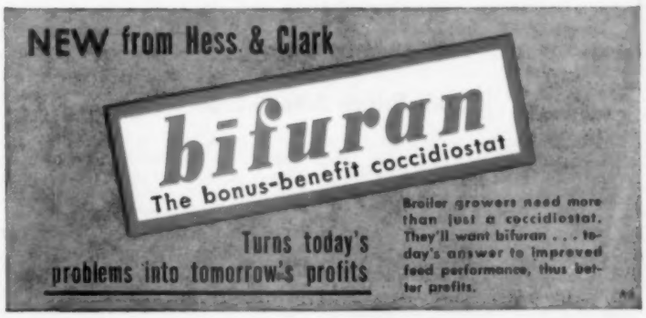
Findings on the use of hormones and antibiotics in cattle feeding will be included in the information to be presented, according to A. L. Neumann, head of the beef division.

L. H. Simerl, agricultural economist, will discuss the beef cattle outlook.

Among the research subjects to be reported on are carcass evaluation of hormone-treated heifers, metabolism of radioactive stilbestrol in beef steers, effect of Aureomycin on hormone-implanted steers limited-fed and full-fed on pasture, effect of Terramycin on hormone-implanted heifers full-fed on pasture and in drylot, and a study of time and methods of using hormones in beef cattle.

W. L. CAUGHMAN DIES

COLUMBIA, S.C. — Walter L. Caughman, 76, former vice president of Caughman Feed & Seed Co., died recently after an illness of several years. He retired four years ago. Mr. Caughman came to Columbia in 1900 and was one of the organizers of Caughman Bros., serving as vice president until that company was reorganized 35 years ago into the Caughman Feed & Seed Co. He is survived by his widow, two sons, two grandchildren and three sisters.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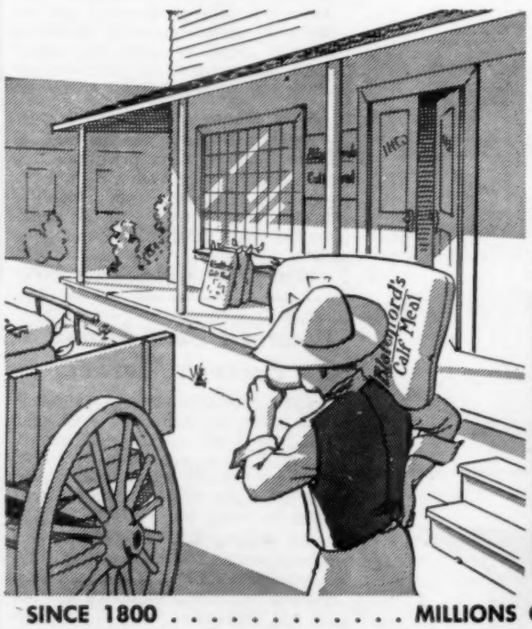

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UP OR DOWN?

By Leonard W. Schruben
Agricultural Economist, Kansas State College

Corn Prices After Large Crop

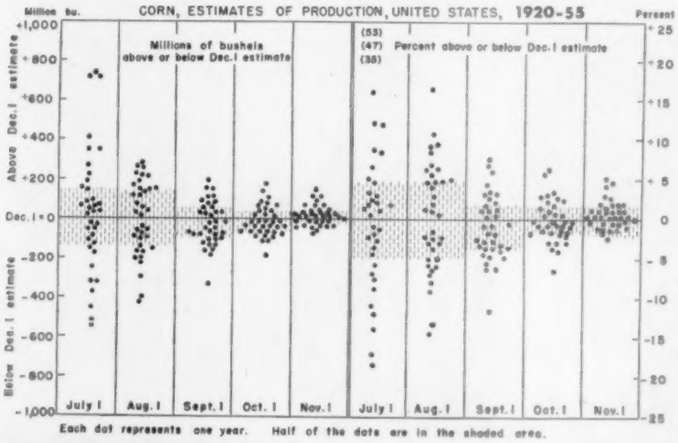
Prices following large corn harvests have followed different patterns than those following small crops. This year's crop promises to be a big one. The 3,669 million bushels production estimated as of Oct. 1 by the Crop Reporting Service would count as one of the big crop years. As a matter of fact, if the estimates were realized, it would be the second largest U.S. crop of record.

This article is written to help you understand some of the differences in price patterns following large crops as compared with those of small crops. Price patterns need not necessarily be repeated this year, but it will be of help to you in managing your inventory and purchase program to be familiar with some typical differences.

In evaluating the situation based upon pre-harvest crop estimates, it is a good idea to review those estimates to see how close they have been to the realized production. This is done for you in Exhibit 1. There are two parts to Exhibit 1. One relates to the millions of bushels above or below the December estimate and the other relates to percent of difference between the estimates made as of the first of several months as compared with the Dec. 1 estimate. In other words, one is on a bushel basis and the other on a percent basis.

Exhibit 1 may appear somewhat complicated at first glance, but once you get the hang of using it, you will find it easy to compare past estimates. The zero line represents the December estimate. This estimate is considered to be the final for the year although subject to later revision. The estimates as of the other months beginning with July are shown in Exhibit 1. Each dot represents the position of the estimate relative to December for each of the months.

EXHIBIT 1.



You will notice that over half of the Oct. 1 estimates were within plus or minus 2½% of the December estimate. In bushels this amounts to something less than plus or minus 100 million. While this represents a lot of corn, it is small when compared to a 3-billion-bushel crop. With the crop harvest progressing as it has this year under favorable conditions in most areas, we would not expect much of a change in the over-all production from the Oct. 1 estimates.

Price Trends After Large Crops

Exhibit 2 shows the percent of times the U.S. farm price went up from harvest to and from each of the following 11 months from 1908. It is divided into three sections representing large, medium and small harvests.

Here is how to read Exhibit 2. For example, assume this is a big crop year and you are interested at the moment in prices from October. First you locate the section for large crop years. Find the October line and read across the page. You will find a zero under November and a 29 under December. This means that prices have never gone up from October to November following a large crop. They have gone up 29% of the years (about 3 out of 10) from October to November.

You read the other sections and other months in the same way. If you clip this table, then next March when you want to know how often prices went up from March to May, you can find out. Of course if prices don't advance, they stay the same or go down. We have similar tables with this data but we haven't space here to include them.

Remember, the prices used to derive Exhibit 2 are U.S. farm prices. Prices in other markets may behave differently.

EXHIBIT 2—Corn: U.S. Farm Price, Percent of Times Price Went Up From Base Month to Subsequent Month, 1908-1956

Base month	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Large corn crop years:											
October	0	29	29	41	35	47	47	59	65	76	75
November		47	59	47	71	82	88	88	94	88	87
December			82	76	82	82	82	82	88	82	81
January				76	74	76	88	82	82	82	87
February					94	94	94	94	94	94	94
March						88	94	82	94	88	87
April							76	76	100	94	94
May								76	88	82	87
June									94	88	87
July										76	62
August											31
Medium corn crop years:											
October	13	33	33	47	60	67	67	73	73	73	53
November		67	73	80	80	80	87	87	87	87	80
December			80	80	80	73	87	87	93	80	80
January				60	67	73	80	80	87	80	67
February					67	73	67	87	87	80	67
March						67	80	80	93	80	60
April							67	73	93	73	53
May								60	73	73	53
June									73	60	40
July										40	13
August											7
Small corn crop years:											
October	19	44	56	50	50	56	62	75	75	75	69
November		56	62	56	62	75	81	81	81	87	75
December			69	62	75	75	75	81	69	81	69
January				56	75	75	75	75	69	75	75
February					69	81	87	81	75	69	69
March						81	87	87	81	69	69
April							75–	75	69	75	69
May								75	44	50	56
June									56	50	44
July										56	44
August											31

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Western Beef Moves To Eastern Markets

SAN FRANCISCO — California beef is moving into the big Chicago and New York markets, its quality accepted there as second to none, E. Floyd Forbes, president and general manager, Western States Meat Packers Assn., has said.

Mr. Forbes said that during one recent week, 20 carloads of U.S. choice grade California beef had been shipped to jobbers supplying the hotel and restaurant trade in the two large eastern centers — 16 carloads from Los Angeles and four from San Francisco.

Mr. Forbes attributed the movement in part to a shortage of choice fat cattle in eastern markets, traceable to the reduction in the number of cattle placed on feed after feeders suffered heavy losses last winter.

Western cattlemen, cattle feeders and packers have for the past year been waging a campaign to eradicate an old belief still lingering in some areas that eastern beef is in some way superior to western beef.

"University tests have proved western beef is unsurpassed," said Mr. Forbes.

USDA Modifies Sales Program for Dry Milk

WASHINGTON—The U.S. Department of Agriculture has announced, effective immediately, that (1) up to 12 million pounds of Commodity Credit Corp.-owned roller process non-fat dry milk will be offered for competitive bid sale for export for restricted use as animal and poultry feed, and (2) spray process non-fat dry milk is being withdrawn from sale for this purpose. This action modifies the CCC monthly sales list for October.

Sales will continue to be made under provisions of announcement LD-23. Bids received by the close of business on Friday each week will be considered for acceptance on the first business day of the following week.

Since Aug. 1, when the offer of nonfat dry milk for sale for foreign feed use was announced, USDA has sold approximately 31,461,000 lb. for commercial export for this use. Up to 50 million pounds of CCC-owned nonfat dry milk were offered under the program. This latest action to withdraw spray process nonfat dry milk from sale for this restricted use and to limit roller process quantities available to 12 million pounds will reduce the over-all total offered under the program from 50 to approximately 43.5 million pounds. The reduced offering for this use is necessitated by recent decreases in the CCC inventory of non-fat dry milk, which on Oct. 3 totaled approximately 30.6 million pounds, the smallest in several months, USDA says.

WATER TANK GETS REMODELING FOR GRAIN

GOLDFIELD, IOWA — The large steel water tank used by the Rock Island Railroad for many years to store water for steam locomotives, is being made into a grain storage bin by the Farmers Co-op Elevator Co. here. Workmen have put a door in the tank and are putting a roof on it.

NEW NUTRITION DEVELOPMENTS

(Continued from page 48)

the speaker said. Stabilized sources of vitamin A are available.

As to mineral requirements, the lack of sufficient phosphorus must be kept in mind, Dr. Whitehair said. Phosphorus and cobalt have been found to have important roles in the normal functions of the rumen, and while the actual availability of these elements in low quality roughage is uncertain, they should be added to the ration as an insurance measure.

Micro-organisms in Ruminant Nutrition: The most important functions of rumen microflora are (1) digestion of cellulose and related materials, (2) synthesis of water soluble vitamins, and (3) utilization of non-protein nitrogen, J. M. Prescott of the department of biochemistry and nutrition, Texas A&M, said.

The speaker brought out that much effort has gone into the study of cellulose digestion because cellulose is the most abundant feed component in nature. Ohio and Iowa stations discovered that the short chain fatty acids are highly stimulatory to this digestion. Bentley and co-workers at Ohio identified the stimulatory factor as a mixture consisting largely of caproic, n-valeric, iso-valeric and isobutyric acids. Acetic, propionic and butyric acids, as well as C_7 to C_{10} straight chain fatty acids were inactive. Two amino acids, valine and proline, also showed stimulatory activity. Still other cellulolytic factors are yet to be identified.

As to vitamin synthesis, it is known that ruminants can be maintained on rations low in B vitamins, and it was supposed that this was because of vitamin synthesis by rumen bacteria. Not only has this been confirmed but it has been demonstrated that ascorbic acid and vitamin K can be synthesized by the rumen microflora. So, the speaker said, it appears that only vitamins A and D are required in the diet.

The presence of microflora in the rumen simplifies the protein nutrition of the rumen, Dr. Prescott said. Bacterial protein from the rumen has been found to contain all 10 of the amino acids essential to rat growth. A recent literature report suggests that rumen microorganisms require reducing conditions in order to begin their reproduction, and indicates that ethanol can supply the hydrogen for such reduced environment, he said. It was found that calves on a diet containing urea, molasses and corn cobs gained 1.3 lb. a day more when ethanol was included in the diet.

Phosphorus for Cattle and Sheep: The phosphorus requirements of ruminants were discussed by Dr. Tillman in a second talk. One of the first phosphorus supplements was steamed bone meal, but due to supply inadequacies other supplements have been advanced.

In considering rock phosphates, two problems were apparent: (1) tolerable fluorine levels, and (2) phosphorus availability, Dr. Tillman said. Safe levels of fluorine have been established and availability of phosphorus has been studied on chicks and swine, and work is proceeding with sheep and cattle.

Dr. Tillman reported on Oklahoma studies, and he described one experiment with heifers in which dicalcium phosphate was reported to be a satisfactory supplement while soft phosphorus with colloidal clay was not. In a second series of experiments with cattle and sheep, Dr. Tillman said, dicalcium phosphate, Curacao Island phosphate and steamed bone meal were tested and found to be satisfactory supplements.

He said there is a need for faster and more accurate techniques to measure phosphorus availability.

Systemic Animal Insecticides: George L. Crenshaw, The Dow Chemical Co., Midland, Mich., reviewed work in systemic insecticide research. He said chemotherapy, or chemoprophylaxis with systemic insecticides, offers the most effective means of controlling parasitic arthropods affecting animals.

Certain organic phosphate compounds which have been introduced recently have exhibited systemic insecticidal abilities, the speaker said. He discussed Dow ET-57, 0 0-dimethyl 0-2, 4, 5-trichlorophenyl phosphorothioate and said it is the most promising yet. He said it is toxic to the insect but relatively non-toxic to the host. It has been shown to have marked activity against the larval stages of the cattle grubs and against other parasites.

EFFICIENT MEAT PRODUCTION: Utilization of feeds available in Texas, taking advantage of low grade roughages, and proper feeding of additives and protein substitutes, all contribute to more efficient meat production, said J. C. Miller, head of the department of animal husbandry at Texas A&M.

The speaker made the following points in reviewing the progress in livestock feeding research:

(1) Sorghum grains have been proved of equal feeding value as corn, thus have become the fattening feed of Texas. (2) Cottonseed meal and cake have been shown to be a safe and valuable source of protein for cattle and sheep. (3) Processing methods have been established through research which make cottonseed meal safe for swine feeding at higher levels.

(4) Drouths and lower margins on cattle feeding have led to the use of such emergency feeds as gin trash, corn cobs, cotton burs, prickly pear, mesquite wood, peanut hulls, rice, straw, cotton stalks and wood molasses. (5) Diethylstilbestrol, urea and antibiotics have been shown to be of real economic value when properly incorporated in the ration. (6) The Texas station pioneered in the identification of naturally occurring phosphorus and vitamin A deficiencies on Texas ranges. Additional vitamin and trace mineral studies are in progress to determine the possible need for and methods of supplementing Texas feeds and ranges.

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HEALTHIER, MORE ACTIVE ANIMALS . . . with better appetites; less digestive disorders; less scours and bloat; VITA-VEX starts cattle on feed faster.

MORE REGULAR FEEDING . . . with VITA-VEX added; animals stay on their feed and eat more regularly; stay healthy during calving and ward off minor ailments.

INCREASED RUMEN FERMENTATION . . . feeds consumed are more available to rumen bacteria resulting in faster weight gains or greater milk production and butterfat count in dairy cattle.

A FEED TO FIT ANY FEEDING PROGRAM . . . little or no changes are necessary to turn present rations into more palatable, more profitable feeding. VITA-VEX fits in any type of formula.

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AT TEXAS CONFERENCE—Among the speakers and officials at the recent Texas Nutrition Conference were, from left to right, Dr. J. R. Couch, Texas A&M College; Dr. M. L. Scott, Cornell University; M. U. May, Southland Feed Mills, Dallas; Paul Ray, formerly with Burrus Feed Mills, Ft. Worth; W. A. Gandy, Paymaster Feed, Abilene; W. D. Nusbaum, Ralston Purina Co., Ft. Worth; Dr. H. O. Kunkel, Texas A&M; Dr. G. L. Crenshaw, Dow Chemical Co., Midland, Mich.; Max Wenmohs, Max-Allen Milling Co., Center, Texas; Dr. C. K. Whitehair, Michigan State University; J. T. Shahan, LaPryor Milling Co.; Dr. S. M. Weisberg, National Dairy Research Laboratories, Inc., Long Island, N.Y.; Dr. H. Yacowitz, Squibb Institute for Medical Research, New Brunswick, N.J.; L. F. Van Stone, Uncle Johnny Mills, Houston; Warren LeBourveau, Mathis (Texas) Grain & Elevator Co., and Dr. B. L. Reid, Texas A&M. The industry men in the photo are members of the board of directors of the Texas Feed Manufacturers Assn., which helped sponsor the conference.

and veterinarians have two distinct services to offer, Dr. Morris Erdheim, director of technical development, Dawe's Laboratories, Inc., Chicago, said in a discussion of relationships between the feed and veterinary industries. (1) The feed man has the equipment and technological know-how to mix feeds. This is particularly important in the matter of including micro-ingredients in our feeds. (2) The veterinarian has the training, experience and clinical know-how to diagnose and treat disease conditions. He is also in best position to advise on disease prevention.

Dr. Erdheim said the feed industry and practicing veterinarians should develop a reasonable approach to distribution of medicated feeds. A prescription basis of some kind, he said, might be an approach.

The practicing veterinarian represents a sphere-of-influence for the feed industry's sales and service program in these respects: (1) He's the only person the farmer calls in on consultative basis for a fee regarding herd health matters. (2) He can prescribe your medicated feeds if they answer his needs. (3) He can minimize your field management problems.

It pays for the feed man to cultivate the friendship of the veterinarians in his sales area, Dr. Erdheim declared. This can be done by (1) a dinner invitation in order that common problems can be discussed, (2) inviting veterinarians to visit the feed plant, (3) calling on veterinarians in their offices to keep them informed on medicated feeds being sold in their areas of practice, and (4) assuring the veterinarian by word and deed that there is no intention of replacing or displacing him in his professional relationship with his clients.

Dr. Erdheim said that a reasonable approach will develop when both groups reason together and in good faith. He also mentioned the importance of feed men encouraging feeders to improve management so that feeds will perform better.

The subject of competition for the consumer meat dollar was discussed by Jerry Sotola of the Armour Livestock Bureau. Feed service developments at Texas A&M were reported by R. D. Lewis.

Oscar Straube, Pay Way Feed Mills, Kansas City, chairman of the American Feed Manufacturers Assn., was present and commended feed associations for improvements they have brought about. He urged nonmembers to join the various associations.

Mr. Straube also praised the effort being made for a uniform feed law in Texas, and he stressed the importance of proper instructions for feeding medicated feeds.

Cargo Carriers, Inc., Joins Sugar Exchange

MINNEAPOLIS — Cargo Carriers, Inc., a transportation and merchandising affiliate of Cargill, Inc., national grain handling and processing firm, has been admitted to membership in the Louisiana Sugar Exchange.

The move, according to Ray W. King, Cargo Carriers vice president, is part of a program of expanded activity in the merchandising of molasses for animal feed. The company now has a special branch for development and marketing of the product, has bulk molasses handling facilities at Chicago and operates molasses barges out of the New Orleans port area to Chicago and to Port Cargill on the Minnesota River.

"Further expansion of molasses facilities is planned for 1957 to keep pace with the rapidly expanding market for this product," Mr. King said.

Tenox BHT AGRICULTURAL GRADE

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free-flowing
non-dusting
non-caking

Before developing Tenox BHT-Agricultural Grade, Eastman consulted many people in the feed industry, to discover exactly what they wanted in an antioxidant for poultry feed. We asked them about their storage problems... we studied their blending machinery and methods... we asked their advice on the best particle size.

Using this information, coupled with our knowledge gained through years of experience in food antioxidants, we developed the new Agricultural Grade of Tenox BHT, designing it specifically to meet the needs that were expressed to us.

As a result, Tenox BHT-Agricultural Grade is supplied as free-flowing, non-dusting powder, in a particle size comparable to that of other feed components. It blends rapidly and homogeneously in mixing operations, and does not separate during handling or storage.

Tenox BHT-Agricultural Grade improves pigmentation, protects the vitamin content of your feed, and safeguards poultry against deficiency diseases such as encephalomalacia. To poultrymen, this means bringing more chicks to faster and more profitable maturity.

Since this is a new form, especially prepared for feed use, be sure you specify Agricultural Grade when ordering. For additional information concerning Tenox BHT-Agricultural Grade, write to EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENNESSEE.

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tennessee; New York City; Framingham, Massachusetts; Cincinnati; Cleveland; Chicago; St. Louis; Houston. **West Coast: Wilson Meyer Co.,** San Francisco; Los Angeles; Portland; Salt Lake City; Seattle.

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Southern Feed Control Officials Set Dates

LEXINGTON, KY.—June 17-19, 1957, have been announced as the dates for the 15th annual convention of the Association of Southern Feed & Fertilizer Control Officials. The convention will be held in the Dinkler-Tutwiler Hotel, Birmingham, Ala.

Program suggestions may be sent to R. W. Ludwick, president, Box 366, State College, N.M.; B. D. Cloananinger, chairman of the executive committee, Drawer 392, Clemson, S.C., or Bruce Poundstone, secretary-treasurer, Kentucky Agricultural Experiment Station, Lexington.

GRAND OPENING

BLACKDUCK, MINN. — The Blackduck Co-op Elevator held its grand opening recently. Otto Evjen is elevator manager and Kenneth Clausen is assistant manager.

Blatchford Contest Winners Announced

WAUKEGAN, ILL.—The winners of a calf raising contest, who shared in $1,000 in prize money, have been announced by the sponsors, Blatchford Calf Meal Co., Waukegan. Final judging was made by the editors of the American Farm Youth and National Future Farmers magazines.

Both beef and dairy breeds were among the winners, many of which went on to be shown at county and state fairs. A good number were prize winners and champions in their division.

First prize was awarded to Ray P. Jorgenson, Poy Sippi, Wis., with a Holstein calf that reached 127 lb. in 51 days after being fed on Blatchford's Calf-Pab and Pablets. Second prize was awarded to Jule Bublitz, Tigerton, Wis., with a Brown Swiss calf that weighed 119 lb. in 53 days. Third prize was taken by Mrs. Flossie Wilbur, Belfast, N.Y., with a Holstein calf that weighed 215½ lb. in 43 days.

A special award was won by Scott McWhinney, Orion, Ill., with a Shorthorn steer that later won first in class at the Illinois State Fair. Another special award was won by Mrs. Ethel N. Cross, Lexington, N.Y., with a Jersey calf that also won senior champion at the Catskill Artificial Breeders Assn. Show.

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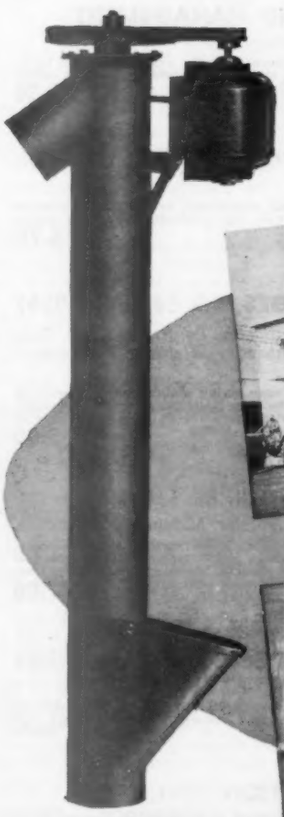

New home of The Farmers Co-operative Creamery Feed Dept. Note elevator in upper left corner.

Motor and drive are in the basement—out of the weather and convenient for servicing.

MAIL card today for complete information

"I would recommend this machine to anyone," says Oliver Swanson of The Farmers Co-operative Creamery Co.

When the Feed Dept. of The Farmers Cooperative Creamery Co., Clear Lake, Wisconsin moved into their new concrete block mill, their plans called for a bucket elevator to be used in filling their storage bins. "However," says Mr. Swanson, "after careful consideration of the various types of conveyors available, we chose the Kelly Duplex Vertical Screw Elevator. We found that it passed through the bins with a minimum of lost space . . . that it was simple to install and convenient to service . . . and that it was so tightly constructed that there was no dirt or dust to fly around. We chose the 9" conveyor with a total length of 42 feet and driven by a 10 HP motor. This combination gives us an hourly capacity of 20 tons of corn or grain."

"All in all," says Mr. Swanson, "we are very well satisfied with this machine and would recommend it to anyone in need of this type of equipment."

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Like Mr. Swanson, hundreds of other feed mill and elevator men all over the country have found that the Kelly Duplex Vertical Screw Elevator is the modern, money-saving solution to every material handling problem.

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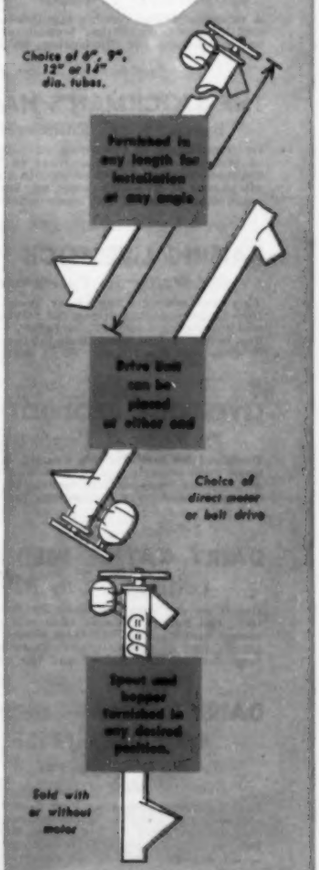
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Broiler Feed Efficiency Of Tomorrow

By Dr. John W. West
Oklahoma A&M College

EDITOR'S NOTE: In the accompanying article, Dr. John W. West, head of the poultry department at Oklahoma A&M College, briefly reviews past advances in broiler production and takes a look at possible developments in improving broiler feed efficiency in the future. He predicts that within the next 25 years, broiler growers will be raising 3-lb. broilers on less than 3 lb. of feed, and he suggests that more of the nutrients may be supplied in the future through the drinking water. This article is the abstract of a talk by Dr. West at the National Broiler Council convention.

Improvements in feed efficiency are of no consequence unless production efficiency is improved. Pounds of feed per pound of gain is certainly important; feed cost per pound of gain is much more important. All broiler feed studies should be accompanied by cost studies; be sure that the pounds of meat will not cost more to produce than it will bring when sold.

Modern broiler feeding is becoming more and more of an exacting science. Broiler feeding is characterized by many new-fangled ideas and innovations. Progress is made in this way.

The past 25 years have witnessed spectacular improvements in broiler production. In the early thirties, production of a 3-lb. broiler required 15 weeks and approximately 15 lb. of feed. Now, the same 3-lb. broiler can be produced in eight to nine weeks on about 6.5 or 7 lb. of feed. A committee of the AFMA estimates that by 1960 a 3-lb. broiler will be produced in less than eight weeks and with about 6 lb. of feed. Maryland scientists have shown that, with experimental rations high in vitamin content and with added animal fat, a 3-lb. broiler can be produced in about 7.5 weeks time using approximately 4.8 lb. of feed. Is this the end? My answer is, No. Rather, it is only a temporary goal.

Nutritionists certainly are not due all of the credit for this quarter-century of progress. Geneticists, pathologists, parasitologists, management specialists, extension workers, progressive feed manufacturers and many others have had a tremendous influence on this development.

Dr. John W. West

However, some credit does belong to the nutritionists. Maryland workers compared rations of 1930, 1938, 1946, and 1954, using 1954 model birds (N.H.xB.P.R.) reared to eight weeks in batteries. Average eight-week weights were 1.49, 1.79, 2.07, and 2.49 lb., the percentage increases for each eight-year interval being of the order of 20 percent. Projecting this trend for the next quarter of a century at the same rate, average eight-week weight would be approximately 3.0 lb. in 1962, 3.6 lb. in 1970 and 4.3 lb. in 1978.

Much of the attention at present is focused upon high-energy broiler rations. Calorie-protein ratios have been worked out, both for broiler starting

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and finishing periods. Some attention has been given to a calorie-methionine ratio—the higher the energy content of the feed, the greater the amount of methionine required for rapid growth and efficient feed conversion. This is not surprising, since birds eat primarily to satisfy their heat and energy requirements. Since it takes less total feed to satisfy these requirements, it stands to reason that the ration levels of growth factors such as methionine and protein would have to be higher in view of the lesser intake.

But this relationship does not end with protein and methionine. Attention must therefore be given to calorie-riboflavin ratio, calorie-phosphorus ratio, calorie-vitamin A ratio, etc. National Research Council allowances are therefore obselete. Requirements must be determined anew in relation to the energy level (calories) in the diet. Logical perhaps would be an expression of the several nutritional requirements at various energy levels.

What sort of diets and feeding programs will we be using by 1980 (approximately 25 years from now)? How much feed will be required to produce 1 lb. of broiler meat? I predict that within the next quarter-century we will be producing 3-lb. broilers using less than 3 lb. of feed! But how is this possible? Water is the key. Approximately two-thirds of the live weight of the broiler is water. Basically it is necessary therefore on a 1:1 conversion that one pound of feed be used to manufacture ⅓ lb. of broiler dry matter. Birds consume approximately twice as much water as feed; thus 2 lb. of water would be used to produce ⅔ lb. of broiler body water.

It may well be that we will be "irrigating" broilers! By this I mean that many of the nutrients will be supplied in solution in the drinking water. Why not? We vaccinate, medicate and even worm chickens via the water. Then why not feed them via the water. Indeed, we do feed via the water. Water is the most important nutrient of all. The best of feed cannot compensate for a lack of water. Milk substitutes for calves contain nutrients dissolved in milk or water. Nitrogen as anhydrous ammonia is supplied to plants in solution, even as we irrigate.

Relationships

The most fertile field for broiler feed research in the immediate future is in the field of "relationships"—for example, nutrition in relation to stress (management, disease level, rapid growth); nutrition in relation to stress adaptation (adrenal gland), breeding, processing yield, market quality; nutrition in relation to season.

Why not a special broiler ration for summer, one for winter, one for spring and fall? Changes in formulas need not be qualitative, only quantitative in nature. Use the same ingredients the year around; merely vary the percentages of each in the feed.

Jack Wadsworth

APPOINTED—Jack Wadsworth has been appointed sales manager for America's Made-Rite Feeds, it has been announced by George P. McCarthy, vice president and general manager of the feed division of Flour Mills of America. Mr. Wadsworth formerly served as territory manager for Nutrena Mills, Inc. A graduate of Texas A&M College with a B.S. degree in agricultural education, Mr. Wadsworth has taught vocational agriculture in the veteran's vocational program and in public high school. His interest in agriculture dates back to his boyhood days in Weatherford, Texas. Mr. Wadsworth, his wife and three children live in Ft. Worth.

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In addition, Polystat *stimulates growth and improves feed conversion.* Its effect on subclinical (unseen) disease and stress factors is indicated by the improvement in flock health, growth, and production.

Everyone connected with the poultry industry knows disease problems can be complex. We who work directly with diseases are constantly discovering new facts and concepts, such as the effects of stress on the physiology and, therefore, the disease resistance of the bird.

You in the feed industry are certainly aware of the increasing need for preventive, therapeutic, and supportive mixtures.

Clearly, with the bewildering complexity of diseases and stress factors, the poultryman now needs protection along a broad front. This is why I urge you to take a new look at Polystat.

Polystat, a multi-chemical product, affords the broad disease protection that poultrymen need. It helps prevent coccidiosis, worms and hexamitiasis, and also stimulates growth. Recently, we have discovered that Polystat also offers protection against pullorum, typhoid, and turkey bluecomb.

All these specific disease-preventing properties add up to effectiveness against a broad range of organisms from Salmonella bacteria to protozoans and worms.

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Polystat sometimes is compared with additives that only prevent coccidiosis, or that only control worms, or that only stimulate growth. None of these comparisons can be valid, for Polystat is more than a coccidiostat, more than a worm preventive, more than a growth stimulant. Polystat is in fact many feed additives in one!

I know your customers will be enthusiastic about the broad disease protection Polystat affords.

I believe you too will appreciate the broad-range benefits of Polystat. It simplifies your feed-additive program. You do not need to include a separate coccidiostat, a separate wormer, or a separate growth stimulant. With Polystat, you have all in one—an additive that improves the efficiency of your poultry feeds. It's worth more because it does more.

This has been but a brief new look at Polystat. To get the full picture, I invite you to write for Polystat Feed Manufacturers Guide No. 7-A.

Sincerely,

John H. Salsbury D.V.M.

Vice President and General Manager

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1956 Alfalfa Seed Production Off 23%

WASHINGTON—The 1956 production of alfalfa seed is estimated by the U.S. Department of Agriculture as 23% smaller than last year's crop. However, the current supply of seed, including the estimated 1956 production and estimated carry-over on June 30, is only 12% less than a year ago and 69% more than the 10-year average.

The 1956 production is forecast at 162,931,000 lb., 23% less than last year's record production of 212,522,000 lb. but 42% more than the 1945-54 average.

California accounts for 48% of this year's production, compared with 40% last year, USDA reports. A decrease in the total production from last year is due entirely to the reduction in acreage, which more than offsets the record U.S. yield of 176 lb. per acre this year.

Imports of alfalfa seed in the year ended June 30, 1956, USDA reports, were about half of the imports in the previous year. Exports were up. Domestic disappearance during the 1955-56 season is estimated at 183,489,000 lb., compared with 157,361,000 lb. last year.

The current supply of alfalfa seed is estimated by USDA at 236,964,000 lb.

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What's New in Feeding
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What's New in Force Molting of Layers?

● W. H. Rice; The Maryland Poultryman, University of Maryland Extension Service, Poultry Husbandry Department, College Park, Md.

Radical changes in management practices have been resorted to for many years in order that poultrymen can better control the time and duration of molt in laying flocks that are to be retained for further egg production. Through the control of molt, the poultryman is able to secure production of eggs when demand is at the peak, secure production at an earlier date following molt, shorten the length of the molting period and thus secure more uniform production throughout the year.

The most commonly used method for force molting consists basically of restricted feeding or starving of the birds for certain periods. About 10 or 12 weeks before the period when the increased production is needed, the flock is culled very closely. Health and vigor are the basic criteria for this culling and non-layers may or may not be culled. All feed and water is withheld for 24 hours and lights are discontinued if they have been used prior to that time. After this 24-hour period, the birds are permitted access to water, but only grain is fed. In some instances, finishing pellets or mash is fed in addition to the grain. When heavy molting is apparent, the laying ration is again fed on full-feed basis. Special items may also be added to the diet to induce greater feed consumption and thus increase the body weight and expedite feather growth. After about six weeks, the use of lights is resumed to give a 14-hour day. Under this type of program, most poultrymen aim at 50% or higher production from the flock within about three months after starting this program of forced molting.

Several tests have shown that the use of Enheptin (2-amino 5-nitrothiazole) is quite effective in inducing molt in laying hens. The optimum amount of the drug to be fed appears to be 0.1% or 2 lb. of Enheptin 20 per ton of feed, fed for 10 days to two weeks. None of the feed is withheld from the birds during this treatment, and, consequently, body weight is not affected. Reproductive performance following the molt was superior to that of non-treated hens.

In other tests, progesterone, injected at the rate of 20 milligrams per bird intramuscularly, induced a severe molt in 10 days to two weeks. Eight weeks after the treatment, most of the birds had resumed production. Neither egg weight nor body weight was affected by this treatment.

Progesterone, fed at the rates of 110 and 220 milligrams per kilogram (2.2 lb.) of mash, was successful in depressing production, and body weight was not affected. However, the molt was not as complete as in those birds treated with injections of progesterone.

COMMENTS:

Even under the most favorable conditions, the restricted feeding practice results in loss of body weight and places undue stresses upon the metabolic and reproductive processes. In those flocks that are low in vigor or are low-level producers as a result of inheritance, production following the induced molt is usually disappointing. In addition, high mor-

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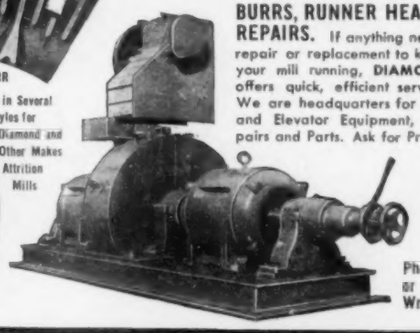

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tality levels also serve to detract from the advantages of this system.

The use of drugs or hormone-like preparations appears to be very advantageous for inducing molt, particularly from the standpoint of maintaining body weight and reducing the time layers are out of production. While these hormone-like products can be given by injection of the individual birds whenever practical, the use of such drugs in the feed is preferred by most poultrymen because of the extra labor involved in treating each hen individually.

In the consideration of any system of forced molting, it must be kept in mind that all layers have a tendency to molt at a normal time, dependent upon their age, season of hatch and length of period of production. The general management and genetic inheritance of the birds will also influence their time of molt. If force molting treatment is administered at a period quite radically different from the normal molting time, there will be a greater tendency for the birds to molt again at the natural or normal time. When this occurs, very little is gained by forced molting.

The economics of the situation should always be considered. The relative importance of production at a particular time will govern whether or not forced molting should be used and also when it will be used. The difficulty of predicting flock response after forced molting is another factor which must be given due consideration in determining whether or not such a program is to be used.

On the basis of the data presently available, the use of drug treatments in the feed to induce molting at or near the time of normal molt seems to offer more advantages to the poultryman. This is especially true if the level of production is 40% or higher at the time molting is desired. In the meantime, other drugs and methods of treatment will undoubtedly be found as a result of further experimentation and thus the present concepts of controlling molt in layers will be made more extensive.

●

Phenothiazine Removes Cattle Parasites

● J. H. Ziegler and R. C. Miller, Pennsylvania State University; Science for the Farmer, Vol. 4, No. 1, Summer, 1956, page 15.

There is no question that adequate control of parasites in beef cattle will improve the rate and efficiency of gains. It has been found that phenothiazine is an effective control of these internal parasites. However, some difficulty has been encountered in administering it through minerals or supplemental feeds. One method for controlling internal parasites in cattle has been "continuous low level feeding." To be effective, cattle should consume about 2 grams of phenothiazine per day. Under continuous low level administration, cattle may refuse to consume the mineral mixture or feed containing the phenothiazine. It is not known whether this is due to distaste for the drug or to a physiological reaction.

During 1955 the above researchers conducted three tests with beef steers to gain information related to the continuous acceptance by cattle of phenothiazine when incorporated in various feeds. During all of these trials the phenothiazine was fed at the level of 5 grams per pound of feed.

The results of the three trials indicate:

(1) The NF Powder was more acceptable to cattle than the NF Purified phenothiazine.

(2) Both grades of the drug fed at the level of 5 grams per pound of feed adversely affected the acceptability of the feed.

(3) The cattle did consume enough phenothiazine daily to provide low level control throughout the test period.

(4) The acceptability of phenothiazine varied considerably from one animal to the next.

(5) Freshly mixed phenothiazine and feed are more acceptable to cattle than the stored mixture.

(6) Sugar or a sweetening agent added to the phenothiazine-feed mixture did not increase the consumption of the drug.

(7) Corn-oats chop appeared to be a better carrier for phenothiazine than did cottonseed meal. It is possible that the cottonseed meal was not too palatable. It does appear freshly ground grain is a suitable carrier for phenothiazine at the level used in these tests.

(8) In a more recent test, results indicated that a highly acceptable protein supplement could be used satisfactorily as a carrier for the 2 gram level of phenothiazine.

COMMENTS:

Even though difficulty may be encountered in administering phenothiazine to control internal parasites in cattle, feed manufacturers should not eliminate it from the recommended beef feeding programs.

Considerable more work should be done before the phenothiazine containing feeds are readily acceptable to cattle, particularly feeds containing the therapeutic level of 60 grams. The above Pennsylvania work does give some leads. In addition to various ingredients, the effect of pelleting and flavoring compounds should be evaluated to learn if they will improve the consumption of the drug.

Canadian Explosion

WINNIPEG — An explosion, believed caused by grain dust, injured four men and caused damage to Pool Terminal elevator No. 6 at the Canadian Lakehead on Oct. 9. The damage was much less than originally anticipated and the elevator is expected to be back into full operation well before the end of October. The explosion took place on the third floor of the structure. Twenty men were in the plant at the time. Owned by the Canadian National Railways, the terminal elevator is under lease to Manitoba Pool Elevators.

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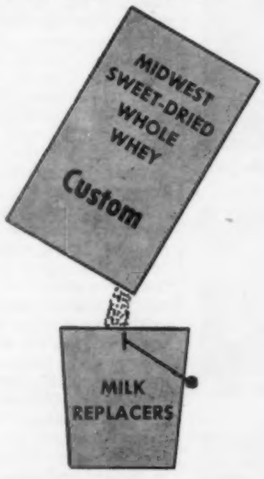

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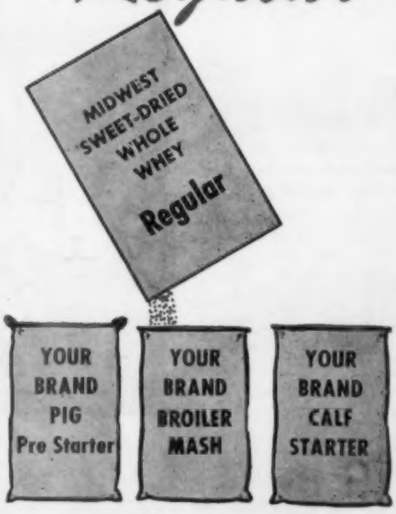

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Drugs as Feed Additives as Viewed By a Feed Manufacturer

By Dr. H. L. Wilcke
Ralston Purina Co.

As we broaden the scope of the use of the various materials that we include in animal rations, so also must the definition for these various ingredients be broadened. A few years ago a drug may have been defined as "any crude medicinal substance," or, as defined in Webster from the old Pure Food and Drug Act, the term "drug" includes "all medicines and preparations recognized in the U.S. Pharmacopoeia and National Formulary, for internal or external use, and any substance or mixture of substances intended to be used for the cure, mitigation, or prevention of disease of either man or other animals."

These definitions are hardly inclusive enough as we use the term today. For all practical purposes, we as feed manufacturers now think of drugs as being any substance of nonnutritive value which may be included in a feed. Many of these are not intended primarily as preventives or as treatments of disease in animals or poultry. Some of them are simply "growth-promotants." For that reason we must take a much broader view of this whole subject, and of its impact upon the feed manufacturer, and more important, upon his customer, the feeder.

There was a time, not too many years ago, when even the suggestion of the use of drugs in feeds was rather frowned upon. There must have been a reason for that attitude. In my opinion the reason was simply that in very few cases had specific uses been determined for the products which were offered, or there was no clear cut evidence of their efficacy. Many were in the old patent medicine class, and they were sold without too much regard for their value or profit to the feeder.

EDITOR'S NOTE: The important subject of medicated feeds comes in for attention in the accompanying article by Dr. H. L. Wilcke, assistant director of research for the Ralston Purina Co., St. Louis. Dr. Wilcke traces the development of the use of drugs in feeds and then explains the three general classifications for the drugs used in feeds, pointing out some of the problems and responsibilities of feed men in this connection. This article is the text of a talk by Dr. Wilcke at the Minnesota Animal Nutrition Short Course at the University of Minnesota. Dr. Wilcke was one of the speakers dealing with the general subject of medicated feeds. Remarks at the same conference by a Food and Drug Administration official appeared in the Sept. 29 issue of Feedstuffs.

Change Noted

Fortunately, we in the feed industry think that we have long since passed this particular stage. At least a part of this change must be attributed to the fact that pharmaceutical houses have found drugs for specific purposes. Credit must also be given to the efforts of the Food and Drug Administration, which now not only requires proof of the value of additives, but also of their safety from both the standpoint of the animal and of the human who eats the end product. We in the feed industry feel that we also have had a very important part in bringing about this change through honest efforts to provide more satisfactory products to our customers.

Livestock and poultry feeds, particularly the latter, have been used as vehicles to carry drug additives for many years. I don't want to review the history of this practice; but most of us can remember the old nicotine sulphate additions, or the tobacco dust additions to poultry mashes as a worm treatment. Those have survived the test of time, and in some instances are still in use. We also remember the sulphur treatment for coccidiosis, and the hazards incident to the use of sulphur in the feed of young chicks. It has just been in the past few years, though, that this phase of the industry has really become common practice. We might say within the past 10 years.

When specific drugs were found which were extremely effective against specific diseases or parasites, there was a definite reason why poultry and livestock feeders should demand this type of service from the feed industry. It's interesting to note in review just how this sort of thing developed. When some of the pharmaceutical houses and the experiment stations made it known that certain drugs were effective against specific parasites, there was an immediate demand from the poultrymen themselves for these drugs in feeds. Some feed companies accepted this practice readily, while others opposed it on the grounds that this was not in the field of feeding but rather in the field of veterinary practice. I think it can be said truthfully that the first drug to be demanded by feeders themselves was a coccidiostat.

Reasons for Reluctance

There were a number of reasons why the feed manufacturer was reluctant to incorporate drugs in his

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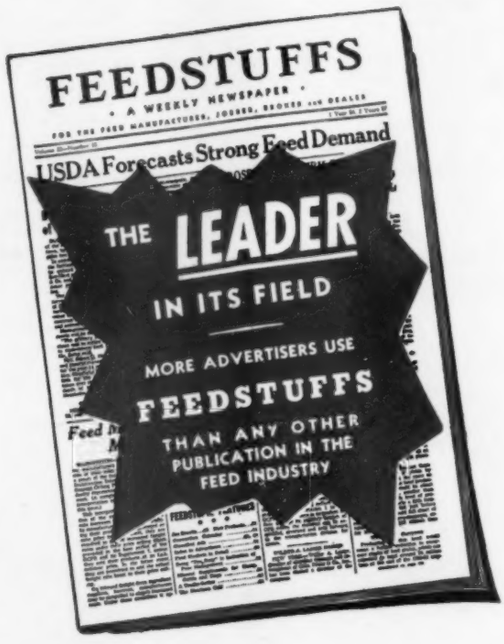

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feeds. (1) He was dealing with a drug which, when improperly used, might be toxic to the animal. (2) He was not familiar with the precautions necessary in quality control and safeguards to employees when working with drugs. (3) This created a product which was not used at all times for the flock or herd, and, therefore, a problem was created in having the right product in the customer's feeders at the right time. (4) This was an expensive item, and it increased the cost of the feeds to the producer, and the feed manufacturer had to be convinced that it was worth the cost. (5) There was a danger that it might be misused by the customer, and the resultant failure of the product would be blamed back upon the feed manufacturer. (6) Not too many laboratories were equipped to make the proper analyses to guarantee the proper levels. (7) It created problems in stocking additional items on the floor of both the dealer's and the feed manufacturer's warehouse. (8) The use of drugs meant that such products could not be put on the market until Food and Drug permission was obtained, resulting in a longer lapse of time and a loss in flexibility in product lineups. These were all reasons why the feed manufacturer should not add the drugs to his feeds.

Customer Wanted It

There was one reason why he should add a drug to his feeds, and that was that the customer wanted it because it was effective in controlling disease or parasites, and it meant more money in the pocket of the feeder. That one reason is why feed manufacturers are including an ever-increasing number of drugs in manufactured feeds today.

Three Classifications

There are three general classifications for the drugs that are used in manufactured feeds. These are:

1. Those drugs which help prevent disease or parasites.
2. Those drugs which are effective as treatments in case of parasitic infestation or disease outbreaks.
3. Those which are growth promotants.

Preventive medication is a well accepted practice, and it is used quite commonly to provide some measure of protection for the feeders, and to help safeguard the investment in adequate nutrition. The total amounts used, as a rule, in disease or parasite prevention, are quite small. This means that precision mixing must be employed to get uniform and accurate distribution of the drug in the feed. This is the business of the feed manufacturer. His experience and his equipment are all directed toward the end of providing the feeder with an accurately mixed formulation which has the proper amounts of all nutrients, as well as of the drugs when they are used.

Therefore, the attitude of most feed manufacturers has changed from one of reluctance to enter into the mixing of proper drugs into the feeds, to one of the view that this is an opportunity for the feed manufacturer to render an additional and vitally important service which cannot be performed as satisfactorily by anyone else. After all, the customer is buying service from the feed manufacturer, and he has a right to expect proper performance in the service of mixing the ration, as well as in the other services of advice on proper feeding, proper formulation, delivery of the right feed at the right time, and all of the other services that enter into the feed industry.

Another phase of preventive medication has been introduced recently by the campaigns which extol the virtues of continuous high level antibiotic feeding to safeguard against so-called sub-clinical disease levels. We've had these recommendations for broilers, for swine, for beef cattle, and now for laying hens. A review of the available data in each case demonstrates that these levels of 50 to 200 grams of antibiotic per ton of total ration, or in the case of beef animals, 75 mg. per head per day, are effective and economical when certain disease conditions prevail, but, in general, not when disease is absent. Who is to say when disease conditions, particularly subclinical diseases, may be present? The feeder must decide whether he wants to invest in this cost for what protection he may get, even though there can be no guarantee of complete protection.

Drugs as Treatments

The second class of drugs creates other problems. In practically all cases the percentage of the drug in the final mixed feed is much higher when it is to be used as a treatment than when it is used as a preventive. In some cases the level is sufficiently high so that it cannot be fed over indefinite lengths of time without toxicity to the animal. Therefore, the use of drugs as treatments carries with it the responsibility not only of proper mixing, but, first of all, an accurate diagnosis by a well trained, competent diagnostician before the drug is used as a treatment. Then, if the feed manufacturer is going to supply feeds with these drugs at treatment levels, he must be thoroughly familiar with the recommendations for the use of the drug, for the level of the drug, for the duration of the treatment period, and also with the hazards to other

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RESEARCH DIRECTOR—H. V. Kindseth, in charge of physical research in Minneapolis for Bemis Bro. Bag Co., has been appointed director of research for the company. Mr. Kindseth joined Bemis in 1931 and worked on the development of the bag packing machinery and equipment produced by the Bemis Packaging Service Plant, Minneapolis. He was appointed chief engineer for packaging service in 1948. In 1952, Mr. Kindseth built and organized the Minneapolis research laboratory, and was named to supervise it. In his new position, Mr. Kindseth will take over duties formerly handled by Daniel Belcher, who has announced that he will retire.

animals or to humans, if there be any such dangers.

The use of drugs at treatment levels also carries with it the responsibility for proper usage. Indiscriminate use of medicated feeds is not only dangerous from the standpoint of health of the animal and, in some cases, from the standpoint of the health of humans, but it is also economically unsound. Recommendations which result in misuse of drugs are a distinct dis-service to all concerned. There is a danger that when drugs are found which are quite effective—and we have such drugs today—there may be an indiscriminate use and a tendency to recommend the drug for almost anything that might appear in the flock from crooked toes to CRD, or in the case of animals, from scours to loss of hair. This same caution applies also to diagnosticians, whether they be laymen or veterinarians.

The variation in recommendations on levels of antibiotics, for instance, to be used on specific diseases, is appalling. This is partly due to the fact that this is a new field, because 10 years is a relatively short time to gain experience. I think I am safe in saying that these extremely high levels are recommended only when the diagnostician is quite sure that there will be no detrimental effect on the health of the animal or bird because of the level used. However, there is always the question of economics. When there is a disease outbreak the feeder suffers a considerable loss. It certainly is not fair to him to add costs which in some cases may wipe out any opportunity for profit, and in more extreme cases will represent a complete loss to the grower.

These are problems that will require the combined efforts of our veterinarians, our drug suppliers, governmental agencies, the Food and Drug Administration, as well as feed control officials, our universities, and the feed manufacturer, all working together to get the proper answers. Fortunately, the wheels were set in motion over a year ago to get a coordinated effort from all of these agencies to arrive at answers on such problems.

In the meantime, it is the responsibility of the feed manufacturer to follow the directions of the manufacturer of the drug explicitly in in-

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NATIONAL MINERAL FEEDS CONVENTION—New officers were elected at the annual meeting of the National Mineral Feeds Assn., held recently at the Sheraton Hotel, Chicago. The picture on the right shows the officers, left to right: Peter W. Janss, Des Moines, Iowa, executive secretary; William A. Power, Puritan Laboratories, Des Moines, treasurer; C. S. Langen, Moorman Mfg. Co., Quincy, Ill., vice president; Russ Bagnall, Arbie Mineral Feed Co., Marshalltown, Iowa, retiring president; Art Swarzentruber, Vigortone Products, Inc., Cedar Rapids, Iowa, president, and J. J. O'Connor, Walnut Grove Products Co., Atlantic, Iowa, vice president. In the picture on the left, above, George F. Morse, E. M. Peet Mfg. Co., Council Bluffs, Iowa, is shown presenting Mr. Bagnall (right), with a plaque in recognition for outstanding service during his term as president.

Lilly REPORT TO THE FEED INDUSTRY

Mr. Klamfoth complimented the feed industry for its excellent research and service programs. "Our feed dealer gives us wonderful service. We depend on him very much, particularly when something new like 'Stilbosol' comes along." Klamfoth's success story will be read by cattle feeders throughout the country in Lilly ads carried by 15 farm magazines.

"We used 'Stilbosol' for 300 days"

By Eugene S. Hahnel

The first time Forrest W. Klamfoth of Groveport, Ohio, used supplements with 'Stilbosol' he got the highest daily gains he ever had with market cattle.

Klamfoth put 47 head of Colorado-bred steers and market heifers on feed. He fed them a ration that included supplement with 'Stilbosol' for 300 days. Average gain per head, ranch to stockyard, was 639 pounds. That amounted to 48 extra pounds of beef per head.

"The highest daily gain I've ever had before was 1.97 pounds per head," Klamfoth reported. "Supplements with 'Stilbosol' helped us make this fine daily gain of 2.13 pounds per head." Gains like that over a 300-day feeding period, particularly on mixed steers and heifers, helped put supplements with 'Stilbosol' in a lot of other feed bunks in the Groveport area, according to Klamfoth's cattle supplement supplier.

"My steers dressed out between 64 and 65 percent," stated Klamfoth. "Shrink was not noticeable and they were nice and fat. We saved one of the steers for our own use and it was the finest meat we ever ate."

Because of his excellent results the first time, Mr. Klamfoth is using supplements with 'Stilbosol' this year on 23 head of his own raising. He plans to give them a 120-day feed.

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corporating these drugs into the feeds.

The third group of drugs is those which have growth-promoting activity and which are not directly involved in disease prevention or control. These are used for young birds or animals which are used primarily for meat production. They are used to decrease the period of time required to produce a bird or animal of a given weight, or they are used to improve feed efficiency, or both. These, of course, must return results to the feeder which are considerably in excess of the added cost.

Since this class of drugs is for the purpose of improving results from the feed, they are the direct responsibility of the feed manufacturer. He must know that they are effective in his particular formulations. He must know that they are compatible with other ingredients he is using. He must know that they are not injurious to the health of the animal, nor to the products produced by those animals, whether it be meat, milk or eggs. Even vitamins were considered in some quarters as drugs when they were first added to poultry feeds. It is entirely possible that some of the so-called drugs of today, which are considered as growth promotants, may take their place, not necessarily as vitamins, but as necessary feed additives, at some time in the future.

It is true, of course, that the addition of drugs to feeds has created many problems for the feed manufacturer, as well as for the feeder. When we consider the help these drugs have provided the feeder, the problems become unimportant.

There is the ever-present danger that the feeder may become careless, and that he may depend entirely too completely upon the drugs, forgetting management and disease prevention in the process. This we must all guard against. He cannot buy management in a feed bag. There is also the possibility that the feed manufacturer might regard the hazards of the use of drugs too lightly. This we must also guard against.

Medicated feeds are a very valuable tool in economical livestock and poultry production, but they carry with them a mandate for accurate formulation, precision mixing and careful usage. The feed manufacturer must assume these responsibilities and accept the challenge of the opportunity for ever-increased service to his customers.

Scoular-Bishop Elevator Burns

COUNCIL BLUFFS, IOWA—A fire Oct. 17 destroyed the main building of the Scoular-Bishop Grain Co.'s terminal elevator here.

Owner R. M. Scoular estimated the loss at more than $200,000. He said the loss was covered by insurance.

The blaze was discovered about 8 a.m. The cause was not immediately determined.

Waldo Merrill, Council Bluffs fire chief, said the fire began in the basement of the elevator's 120-ft. high machinery house and main building. It traveled up a vertical conveyor shaft to the upper portions.

The machinery building also contained storage bins with about 100,000 bu. of grain, Mr. Scoular said.

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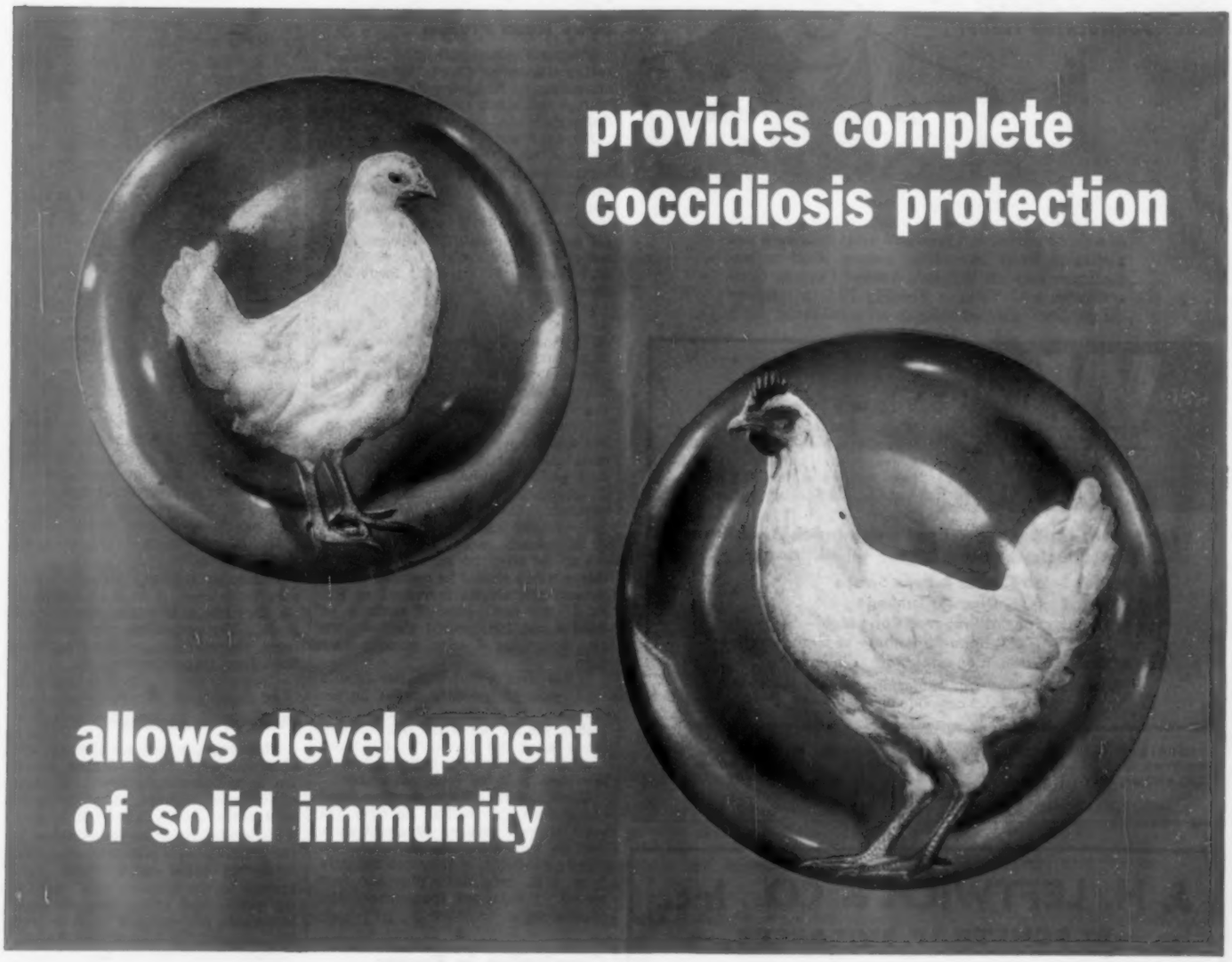

The development of a solid immunity in exposed pullets has now been established beyond all question of a doubt.

NiCarbazin has so successfully met the needs of the broiler grower that it is routinely preferred over any other coccidiostat throughout the broiler industry. However, the needs of the poultryman raising replacement pullets are not the same as those of the broiler grower. His birds must develop an immunity to coccidiosis, since outbreaks are costly and since continuous lifetime feeding of a preventive coccidiostat is not practical.

Merck has conducted a long series of battery, floor-pen and field tests which prove: (a) NiCarbazin permits the development of immunity in replacements, and (b) NiCarbazin is sufficiently flexible to give protection in the face of varying levels of coccidiosis exposure. The results of these tests are now in hand and can be summarized:

1. NiCarbazin permits adequately exposed replacements to establish an immunity to coccidiosis equal in every respect to that occurring in unprotected birds which have survived an attack of coccidiosis.

2. This immunity has developed in every case on exposure to cecal and intestinal coccidiosis.

3. NiCarbazin markedly suppresses oocyst production, but it does not eliminate oocysts completely. As a result, other birds and subsequent broods may be exposed to the coccidia and thus develop their own immunity.

4. NiCarbazin is highly flexible, and can be adjusted to permit effective immunity to develop over a wide range of exposure (varying conditions of soil, humidity and climate and seasonal incidence).

Since pullets can develop a solid immunity during the growing and starting periods to all species of coccidia to which they are properly exposed, NiCarbazin should not be used in any laying ration.

One additional point needs emphasis. In the past, certain poultrymen have preferred to use spot treatment of outbreaks in order to assure the development of effective immunity . . . even when this resulted in costly losses. Now that the facts have been established, there is no longer any reason for feed manufacturers to permit poultrymen to deny their birds the benefits of a NiCarbazin preventive program.

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Feed Service Bulletin Board

Helpful Notes on Feeding and Management for Feed Men and Their Customers

Sows Need Protein

Pregnant sows and gilts need a ration containing about 15% protein, according to E. L. Quaife, extension animal husbandman at Iowa State College.

He says swine producers looking forward to litters of 8 to 10 pigs born alive and weighing 30 to 40 lb. at farrowing time must furnish the sow with the necessary building materials—particularly protein, minerals and vitamins. They'll also need some carbohydrate feed such as corn and oats for body heat and energy.

Mr. Quaife suggests feeding the sows so they will gain an average of three fourths pound to one pound daily during their 114-day gestation period. Don't let them get fat from heavy grain feeding or from lack of exercises, he advises farmers.

Here's a typical drylot ration that Mr. Quafe says will do well for pregnant gilts, either hand fed or self fed: 600 lb. ground shelled corn, 600 lb. ground oats, 600 lb. farm-grown, sun-cured third-cutting alfalfa, 200 lb. balanced protein supplement and 20 lb. mineral mixture.

For old sows he says the corn in this mixture should be reduced to 400 lb. and the alfalfa increased to 800 lb. If the herd consists entirely of tried sows, the ground shelled corn can be replaced with ground ear corn.

If the price is favorable, Mr. Quaife says, part of the oats might be replaced with middlings. The Iowa specialist points out that self feeding saves labor, but may be a little more costly unless a very bulky ration is provided. Self-fed sows eat more.

Good quality silage may be used along with this ration, he says. On good legume pasture, pregnant sows will do well until the pasture is no longer available, if they are fed only 3 or 4 lb. corn daily plus one half pound of balanced supplement, Mr. Quaife says.

◆

Cannibalism in Poultry

Cannibalism may develop shortly after pullets have been moved from the range into winter quarters, advises David D. Jackson, Purdue University extension poultryman.

The birds may have difficulty adjusting to the confinement, changed feeders and watering devices, nests and other new conditions. These new conditions may lead to picking.

It is much better to prevent picking through proper management than to attempt to stop it once it has started, Mr. Jackson points out. All the ventilation possible, with 3 to 4 sq. ft. of floor space per bird will help during the adjustment period. One nest for each five, with 6 to 8 in. of roosting space and at least 3 in. of feeder space per bird, are minimum requirements.

All breeds and varieties of poultry are subject to this vice; however, more of it is found in leghorns than in the heavier breeds, Mr. Jackson says. It also appears to be more common in white varieties, since blood shows up better against a white background.

Should cannibalism appear, the one positive way to stop it is to cut the upper beak back about one third of the way. This is done most satisfactorily by the use of an electric de-beaker, the Purdue specialist advises. There are several types available with the common principle of an electrically heated blade which cuts and cauterizes the beak as it passes through.

If the poultryman finds it necessary to de-beak, it is much better to do the job before the birds begin laying. The operation may set them back, depending upon how long they have been in production.

◆

Pinkeye Is Serious

Pinkeye is a serious disease and should not be taken lightly, warns Dr. John Manning of the University of Illinois College of Veterinary Medicine.

As evidence of the seriousness of the disease, Dr. Manning says that in severe cases cattle have been known to die because they couldn't see well enough to find food or water. However, the greatest loss is from loss of weight and lowered milk production of afflicted cattle.

In checking for pinkeye in cattle, Dr. Manning says to look for a damp line running down the face from the corner of the eye. The animal will show discomfort by blinking and squinting the eye, especially in strong light. Gradually the membranes of the eye and eyelid become so red and swollen that the eye will not

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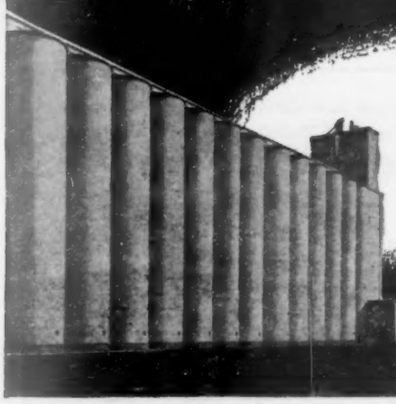

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open. Finally the entire eyeball may turn pink and may even rupture.

Dr. Manning says there are some good medicants for treating pinkeye, but one of the most important steps is to prevent the disease from spreading. Separating infected from non-infected animals is a must, and a good fly control program may help. Pinkeye is spread either by direct contact between animals or by insects.

◆

Lights Increase Production

Research has shown that the laying hen responds to the number of hours of daylight to which she is exposed, points out Byron W. Moore, associate extension poultryman at West Virginia University.

As summer turns to fall and winter, the birds react with reduced activity, Mr. Moore explains. On the other hand, as winter turns to spring and the days grow longer, activity increases and egg production increases likewise.

Down through the years, someone eventually made this observation and sought to duplicate the springtime length of day through the use of artificial light. At one time it was thought that the increased winter egg production was brought about by the chickens eating and drinking more during the longer days. In more recent years, however, it has been shown that the light itself is the direct stimulating force. It tends to stimulate glandular secretions that influence the hormone system and this, in turn, promotes activity by the egg-producing organs.

With this in mind, Mr. Moore suggests these requirements for using lights on layers during the winter:

1. Arrange lights so that all parts of the house—including roosts—are covered.
2. Bulbs should be large enough to provide one watt of light for each 5 sq. ft. of floor space.
3. Give the birds a minimum of 13 hours of light a day — starting about the middle of September and continuing through to about April 15.
4. Time of day (evening, morning, or a combination of evening and morning) seems to have little or no effect. Once a schedule is started, however, it should be maintained and not changed from day to day. A change of schedule is a good way to stop egg production, Mr. Moore cautions.

◆

Bigger Cow Stalls

Bigger stalls in the dairy barn will mean less milk loss from cow injuries in the winter, says Jim Crowley, dairy cattle specialist at the University of Wisconsin.

He says it's a safer bet to have cows in especially large stalls and use cow trainers than to have the herd cramped for space.

Stall size depends on the weight and girth of cows as well as the type of stall. Comfort stalls and tie stalls need to be bigger for a particular cow than stanchion stalls.

Jersey cows, weighing 800 to 1,000 lb. need stanchion stalls 3 ft., 9 in. wide and 5 ft. long. The same cows would need a comfort stall 4 ft. wide and 5 ft., 3 in. long, or a tie stall 4 ft. 3 in. wide and 5½ ft. long.

Medium-sized cattle, such as Guernseys, require stanchion stalls 4 ft. wide and 5 ft., 4 in. long. Comfort stalls for these cows need to be 4 ft., 3 in. wide and 5 ft., 7 in. long. In a tie stall, you'd have to build one 4 ft., 6 in. wide and 5 ft., 10 in. long.

Stanchion stalls should be 4½ ft. wide and 6 ft. long for the heavier breeds. Holstein cattle would need comfort stalls 4 ft., 9 in. wide and 6 ft., 3 in. long, or tie stalls 5 ft. wide and 6½ ft. long.

Where there's a big difference in cow size within a herd, Mr. Crowley says it might be a good idea to make the stalls two different sizes—small stalls on one side of the barn and large stalls on the other. Then the first-calf heifers can stay in the small stalls and move to larger ones as they mature.

In any case, a farmer will need to use electric cow trainers with larger stalls. That will mean fewer sanitation problems, according to Mr. Crowley.

Assistant Named

NEW YORK—The appointment of Cecil Bergenthal as assistant to the vice president of sales and advertising for the Red Star Yeast & Products Co. has been announced by J. A. Kirkman, Jr., vice president in charge of sales and advertising. Previously, Mr. Bergenthal was general sales manager of the firm.

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Minnesota Reports on Early Weaning, Other Swine Studies

ST. PAUL—Studies of rations for early weaned pigs and other aspects of swine nutrition were reported at the recent annual Swine Feeders Day at the University of Minnesota.

The reports were made by Dr. L. E. Hanson, head of the animal husbandry department, and other staff members.

Dry Formulas for Pigs Weaned at Three Weeks: This is the third consecutive year in which most of the pigs produced at the Minnesota station have been weaned early, Dr. Hanson said. They have been used to compare various feed formulations in an attempt to arrive at satisfactory mixtures for pigs of this age. On the whole, results have been good. However, in all direct comparisons made, pigs weaned at three weeks of age have cost more to produce to market weight than those weaned at eight weeks. Pigs weaned at three weeks have required more feed per pound of gain from eight weeks to market than littermates weaned at eight weeks. The reason for this reduced efficiency is not known, Dr. Hanson said.

The present report dealt with additional studies of alfalfa meal, two kinds of whey, a flavor study, buttermilk as a replacement for skim milk, use of a prestarter and pepsin fortification of the ration.

1. In one of the tests, the addition of 3% dehydrated alfalfa meal did not improve the ration which was fed to the early weaned pigs. Dehydrated alfalfa granules and greased meal had no greater feeding value than ordinary dehydrated meal, although the granules and greased meal were easier to handle, the scientists reported.

The basal ration included ground corn (58.7%), soybean meal (16%), tankage (7.5%), dried skim milk (12%), dried whey (3%), fermentation product, steamed bone meal, trace mineral salt, vitamin premix and antibiotic supplement.

2. In another test, two samples of dried whey were fed, each at a 3% level and at a 10% level. There was little difference between the two samples in feeding value. The 10% level of each sample produced somewhat faster gains than the 3% level. The authors said this might be expected since the increased whey level was made at the expense of corn, and Iowa studies have shown lactose is superior to corn starch as a source of carbohydrate for young pigs. The protein in whey also is higher in value.

3. The substitution of dried buttermilk for all of the dried skim milk, 12% in the total ration, reduced eight-week weights 1.5 lb. per pig. It had no effect on feed efficiency. The researchers said that under many price situations, substitution of buttermilk for skim milk would result in lower feed costs.

4. Pigs offered a choice of a basal mixture, which was unflavored and unsweetened, the basal plus 10% sugar and the basal plus a cheese flavor ate most the sugared feed. The cheese flavor was said to have had no more appeal than the basal mixture. Of the total feed consumed, 75.4% was basal plus sugar, 10.8% basal plus flavor and 13.7% was the basal mixture.

5. In two trials of 42 days duration, 14 and 19-day-old pigs were used to study the value of the addition of pepsin to the formula. All pigs were allowed 5 lb. of a pre-starter per head before being fed the test starters. The ration after the pre-starter period included corn, soybean meal (16%), tankage (6%), dried skim milk (6%), dried buttermilk (6%), dried whey (3%), dried fish solubles, steamed bone meal, salt, trace mineral premix, and vitamin and antibiotic supplements. In this experiment, pepsin had no effect on rate of gain or feed utilization. The authors noted that the pigs were about four weeks of age before they were fed the enzyme-fortified ration. The prestarter allowed for each pig lasted about 10 days. Thus the pigs were about 29 and 24 days of age in two trials. Studies elsewhere, it was pointed out, indicate that enzyme feeding may be most beneficial to pigs between one and five weeks of age.

6. Seven trials were completed in which 42 pigs were fed 5 lb. of a high-milk prestarter per head while 42 littermates served as controls. All were fed the same starter to eight weeks of age. In six of the seven trials, the pigs fed the prestarter weighed more at eight weeks and required less feed per pound of gain. After the pigs were eight weeks old, the animals in the last three trials were fed until they weighed about 125 lb. During this period both groups were fed the same 14% protein mixed ration. The control pigs (not fed a prestarter) made up the difference in weight by the time they reached 125 lb.

Effect of Three-to-Eight-Week Ration Treatment on Subsequent Performance of Pigs: In previous Minnesota studies, it was found that pigs weaned at three weeks required more feed per pound of gain from eight weeks to market than pigs weaned at eight weeks, although there was little or no difference in average weights or appearance at eight weeks. The recent experiments were designed to measure the effect of ration treatment on pigs from three to eight weeks. After the pigs reached eight weeks, they were fed to market

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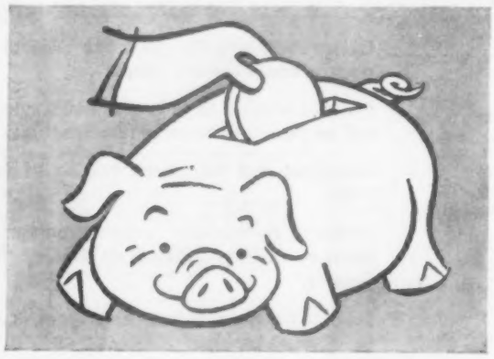

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weight on a "standard ration" to measure effects of early treatment.

Three hundred and twenty-eight pigs were fed in three experiments. During the latter phase, from eight weeks to market weight, all pigs were fed the same formulas. The variables during the three-to-eight week period included dried whey, dried condensed fish solubles, a fermentation product and a high-milk, sugared prestarter.

1. One experiment included 88 pigs from dams fed restricted rations on pasture during gestation. The pigs were in dry lot from birth to market weight. Under these conditions, Dr. Hanson reported, dried whey, dried condensed fish solubles, a fermentation product and all combinations of these ingredients had no effect on growth rate or feed efficiency from three to eight weeks. They had no residual effect on rate of gain or feed efficiency from eight weeks to market weight.

2. A second experiment included 120 pigs from dams fed a 15% alfalfa-30% corn cob ration during gestation. The pigs were in dry lot from birth to eight weeks and a short period thereafter. The remainder of the feeding period, 13 weeks, was on brome grass pasture. From three to eight weeks addition of either of two samples of dried whey at 3 or 10% level increased eight-week weights. There was no difference between the two samples of whey in feeding value, though one was an edible product for human food and the other a "sweet whey" for animal feed. The formulas with 10% whey were equal to or slightly superior to those with 3% whey. In this experiment, it was reported, feeding of whey had no effect on subsequent growth or feed efficiency from eight weeks to market.

3. A third experiment included 120 pigs from dams self-fed a 15% alfalfa-30% corn cob ration during gestation. The pigs were in dry lot from birth to eight weeks and a short period thereafter. The remainder of the feeding period was on brome grass pasture. From three to eight weeks, addition of 2% dried condensed fish solubles increased eight-week weights by 3 lb. A high-milk, sugared prestarter at a rate of 5 lb. per pig increased eight-week weights by 2 lb. per pig. The fermentation product did not affect eight-week weights. None of the treatments affected feed efficiency. From eight weeks to market the pigs previously fed dried condensed fish solubles maintained the weight advantage they had at eight weeks and were 10 lb. heavier than controls at the conclusion of the test. Pigs fed a prestarter did not maintain their weight advantage and were 3 lb. lighter than controls at the end. Early feeding of the fermentation product did not improve post-eight-week gains either. None of the early treatments improved subsequent feed efficiency.

4. Dr. Hanson said: "It appears that the feeding of dried whey, dried condensed fish solubles, a fermentation product or a limited amount of prestarter to pigs weaned at three weeks is not the solution to the problem of reduced feed efficiency from eight weeks to market weight, which has been experienced consistently in this herd."

Calcium and Zinc in Parakeratosis: Dr. Hanson reported on further work in which parakeratosis was produced in pigs by feeding a high-calcium ration (1.4% Ca). When zinc was added, prompt recovery was obtained. Incidence of the disease was higher in fall pigs than in spring pigs fed the same formulas.

It was recommended that moderate calcium levels be fed (National Research Council recommendations) and excesses be avoided. If parakeratosis has occurred, addition of zinc is recommended. The addition of 11 to 22 ppm has been effective in the Minnesota herd. Others have reported a need for higher levels.

Dr. Hanson pointed out that most of the cases produced in this herd in past years (unintentionally) have occurred on rations with moderate levels of calcium. In one of the recent

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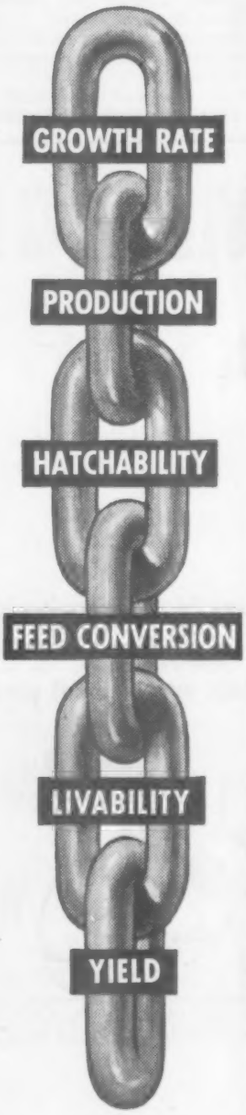

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DEALER BACKS DEMONSTRATION—The Rolla (Mo.) Feed Mill is cooperating in an interesting seed and fertilizer demonstration with the Rolla FFA chapter. The retail store furnished the seed corn, fertilizer and land at cost to the FFA group with profits to go entirely to the chapter. Above is a view of the demonstration plot. Ten different hybrids and one open pollinated type of corn are being tested for maturity, qualities and productivity. The 15 acres were brought up to recommended plant food requirements and an additional quantity of 12-12-12 fertilizer was used on all varieties. In a further test, one hybrid received three different levels of nitrogen fertilizer. Murray Renick of the Rolla Feed Mill states that the FFA members planted and cultivated the corn.

experiments, one pig in the control group developed mild skin lesions. The calcium level of this ration was within the limits of the NRC recommendations. Thus, Dr. Hanson said, it appears that merely maintaining moderate calcium levels will not guarantee freedom from the disease. However, high calcium levels increase the incidence and severity.

Arsanilic Acid in Free-Choice Feeding of Pigs: Dr. Hanson noted that previous Minnesota studies on use of arsanilic acid in swine rations have shown that it is a useful antibacterial agent in rations for swine of different ages. Last spring the Food and Drug Administration approved use of arsanilic acid in "concentrates" or supplements fed on a free-choice basis with grain. The present study was designed to obtain additional information on use of arsanilic acid in supplements fed free-choice. One objective was to explore the possibility of toxicity to pigs when the arsonic acid is fed in this manner.

Eight lots of six pigs each were fed corn or oats and a mixed supplement or a soybean meal supplement from 10 weeks to slaughter weight. Arsanilic acid was added to the supplement at a rate of 450 grams (.05%) or 900 grams (.10%) per ton. The 450-gram level appeared to be superior when corn and mixed supplement were fed. The 900-gram level produced the most rapid gains when corn and the soybean meal supplement were fed. The pigs fed ground oats consumed excessive amounts of supplement. The level of arsanilic acid did not affect feed consumption or rate of gain of the pigs fed oats. There was no evidence of toxicity in any of the pigs fed either level of arsanilic acid.

It appears, Dr. Hanson said, that the presently recommended level of .05% in the supplement constitutes no hazard to the pig.

Winter Rations for Bred Gilts—Protein Level: This experiment represented further work in a series of comparisons of different feed mixtures designed for self-feeding to pregnant gilts. Thirty per cent of ground corn cobs and 15% of dehydrated, greased alfalfa meal were used in the ration.

The basal ration contained 10.7% crude protein and another ration contained 14.3% protein. Both lots were fed the same 16.3% lactation mixture. The average number of live pigs farrowed was the same for both

Wholesale Feedstuffs Price Index

INDEX NUMBERS OF WHOLESALE FEEDSTUFFS PRICES
BASE PERIOD 1947-49—100

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Aver.
1955-56	80.4	76.4	77.3	77.7	76.3	75.2	79.8	84.7	83.2	81.3	81.1	78.9	79.4
1954-55	89.0	90.7	90.9	91.1	90.6	88.1	85.7	81.6	80.6	80.7	78.7	80.7	85.7
1953-54	82.6	83.5	92.5	95.7	97.7	101.6	109.3	104.8	99.7	101.7	99.2	90.3	96.6
1952-53	110.1	105.5	103.2	100.7	97.1	95.9	91.9	92.4	88.1	88.0	86.5	84.3	95.3
1951-52	108.9	112.1	114.1	115.2	114.3	113.2	115.2	114.6	113.9	112.5	120.7	116.3	114.2
1950-51	87.3	93.8	97.3	99.8	103.3	102.4	102.5	101.3	99.9	101.6	99.8	104.0	99.4
1949-50	86.8	85.8	87.2	84.2	82.7	86.7	90.4	96.8	93.2	103.1	94.4	89.0	90.0
1948-49	86.8	95.4	94.7	92.2	86.1	87.2	92.2	89.9	87.9	93.5	97.7	89.5	91.1
1947-48	117.3	117.3	125.0	135.7	117.2	113.5	114.3	112.6	114.8	107.6	91.7	92.2	113.3
1946-47	94.9	104.8	91.8	86.8	82.6	98.2	93.8	92.9	99.0	106.4	109.2	119.0	98.3

Compiled by Market News Branch, Grain Division, Agricultural Marketing Service, U.S. Department of Agriculture.

INDEX NUMBERS OF FEED GRAIN PRICES (CORN, OATS, BARLEY AND GRAIN SORGHUMS) 1947-49—100

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Aver.
1955-56	69.3	69.3	73.0	72.0	73.8	75.4	82.9	84.5	84.3	86.4	86.6	83.9	78.5
1954-55	87.7	85.1	85.0	84.3	82.6	80.5	81.9	84.2	83.0	81.6	75.4	72.8	82.0
1953-54	82.2	82.6	86.5	86.1	85.2	86.6	87.0	88.7	89.2	88.2	89.1	89.4	86.7
1952-53	92.9	90.5	92.8	90.3	87.3	88.2	87.4	89.1	86.7	88.1	88.9	89.2	89.3
1951-52	98.5	103.9	108.7	107.7	101.8	102.0	101.3	101.7	101.1	100.1	101.1	99.8	102.3
1950-51	82.5	86.5	92.0	95.8	99.5	97.2	98.0	97.5	94.1	95.7	96.4	97.5	94.4
1949-50	68.9	69.0	72.9	73.5	73.3	75.4	80.3	83.7	83.8	86.3	83.9	84.1	77.9
1948-49	82.5	79.4	81.2	80.7	73.8	70.7	70.0	74.8	75.1	76.9	71.5	72.3	77.1
1947-48	131.7	136.0	145.2	150.3	124.6	130.0	129.8	127.9	127.7	114.4	103.0	94.4	126.4
1946-47	99.6	82.8	77.9	76.9	80.3	96.8	99.4	99.6	114.5	115.4	128.2	136.2	100.6

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lots. However, the sows in the lot on the higher protein weaned 92% of the pigs farrowed while the sows in the lot on the low protein during gestation weaned only 77% of pigs farrowed. The difference was due principally to a higher death loss from disease among litters of the low protein lot. The results raised the question of whether pigs from gilts fed a low protein ration during gestation are more susceptible to disease and less likely to survive if disease strikes.

Effect of Limited Feeding on Growth and Reproduction of Gilts: Gilts were fed in two groups on two levels of energy intake from an average weight of 123 lb. until they farrowed, a period of 7½ to 8 months. Both groups were self-fed the first five months. Energy intake of one group was restricted by substituting ground corn cobs for ground shelled corn, at an average substitution rate of 27%. At farrowing the limited gilts weighed 322 lb. as compared with 425 lb. for the controls. The number of live pigs farrowed was slightly higher for the controls but the survival rate was higher for the limited group. Thus the number of pigs weaned per gilt was the same for both groups.

The limited gilts sold for more per 100 lb. after the pigs were weaned, but with low hog prices and low feed prices, the cost per pig weaned was about the same at both levels of feeding. With a higher price level, the advantage would have been in favor of the limited group. The restricted gilts handled themselves better in the farrowing pen and more of them survived the experimental period. If the sows had been kept for second litters, it was believed that the limited gilts would have shown to better advantage.

Value of Alfalfa, Salt and Steamed Bone Meal for Controlling Feed Intake of Self-fed Bred Gilts: Experiments were conducted in an attempt to find substitutes for previously used high alfalfa levels in self-fed rations for bred gilts.

Dr. Hanson said salt or bone meal at 10% levels was not satisfactory for controlling feed intake. The high salt controlled weight gains but did not reduce feed consumption, resulting in expensive gains. Bone meal was not as effective as a high level of alfalfa in controlling gains but was superior to 10% of salt. However, bone meal was considered a rather expensive ingredient for this purpose. In one experiment 5% added salt was not as effective as a high alfalfa level in controlling gain. In a second experiment, 5% added salt controlled weight gains nearly as well as 30% ground corn cobs. Gilts fed rations containing 5 or 10% added salt drank enormous quantities of water, creating a problem in keeping pens dry.

High level feeding of salt or bone meal was not recommended for controlling feed intake of self-fed bred gilts.

California Opens New Grain Inspection Point

SACRAMENTO, CAL.—As a result of requests for inspection of the large truck movement of grain from eastern points, the California Department of Agriculture has inaugurated a new grain inspection point at Winterhaven, Cal.

Upon request of the shipper or buyer, grain arriving in the state by truck through Yuma, Ariz., can now have official federal-state inspection and certification of grade. Licensed grain samplers will be available on a 24-hour basis to provide prompt service.

The Bureau of Field Crops, California Department of Agriculture, operates one of the country's largest services of this type. Last year 66,000 inspections of grain, flax and other field crops were performed for applicants. More than 400,000 tons of grain come into the state annually by truck. The greater portion of this is milo from Texas, New Mexico and Arizona.

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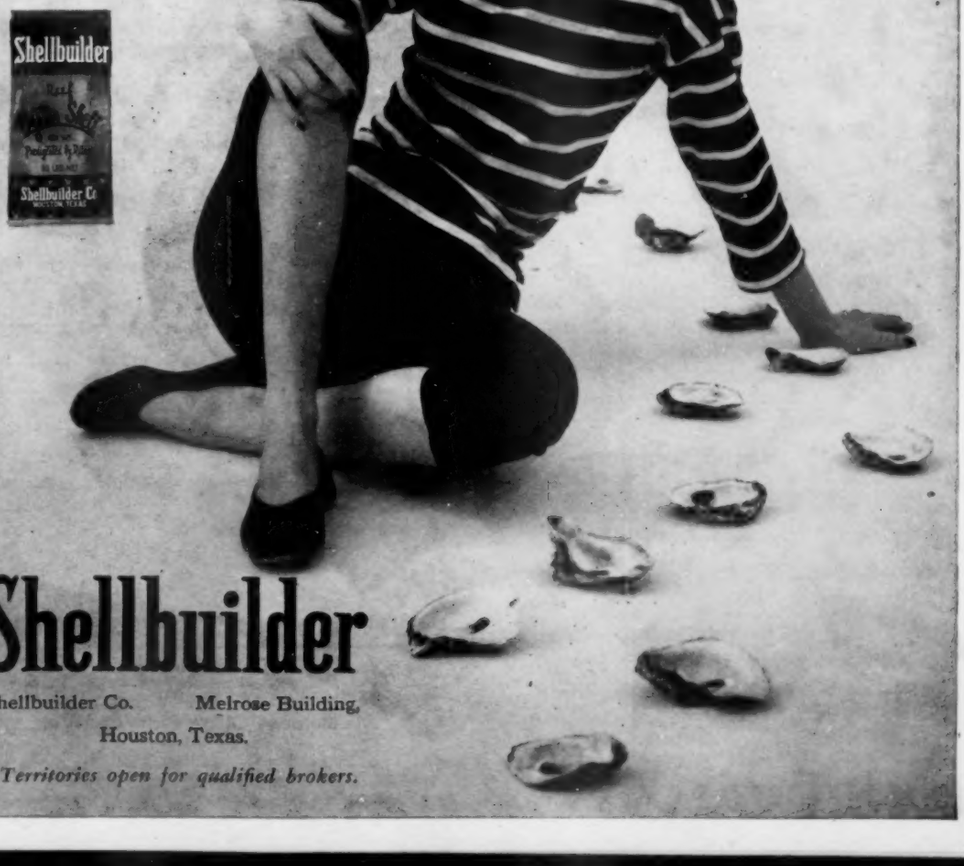

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ATTEND SALES MEETING—Two new products were introduced at a recent sales meeting of Van Camp Laboratories, a division of Van Camp Sea Food Co., Inc., at Terminal Island, Cal. From left to right, those who attended the meeting to learn about Van Camp's new Vanco A and Vanco D dry vitamin A and D feed supplements were: Roy Perrett, sales manager, Van Camp Laboratories; Sprague Watkins, Van Camp; E. K. Bacon, Van Camp; Bob Keilholtz, R. S. Wilson Co., Los Angeles; Brad Barr, M. A. McClelland Co., Kansas City; Beaty Lucius, B. A. Lucius Co., Ft. Worth; Malcolm Goldie, Van Camp; Dr. E. C. Stutts, R. S. Wilson Co., Los Angeles; P. A. Archambault, Arch Sales Co., Denver; Jim Hilliard, Van Camp; M. A. McClelland, M. A. McClelland Co., Kansas City; D. E. Sandmeyer, Van Camp; V. B. Maxson, Van Camp; John Mecking, J-M Trading Corp., Chicago; Dr. E. Geiger, Van Camp; G. E. Johnson, Van Camp; Tom Bisho, Allen Harnett Co., San Francisco, and H. J. Dunn, Van Camp.

Arkansas Reports On Various Grains In Swine Rations

FAYETTEVILLE, ARK. — University of Arkansas researchers reported recently on the results of tests to determine whether it is advisable and economical to substitute other grains for a large part of the corn in swine rations.

The report, by Kendall W. Scott and C. A. Baugus, appeared in the fall issue of Arkansas Farm Research.

Oats, barley, wheat, milo and brewers rice were substituted into a balanced ration for 75% of the corn to see whether such grains grown in Arkansas can be used profitably. One lot received all corn as the grain.

Pigs averaged 39.5 lb. at the start of the experiment and 126.5 lb. at the end.

For the milo, rice, corn, barley, wheat and oats rations, respectively, average daily gains and feed conversion figures were 1.06 and 3.84, 1.29 and 3.35, 1.27 and 3.49, 1.05 and 3.74, 1.39 and 3.35, 1.36 and 3.36.

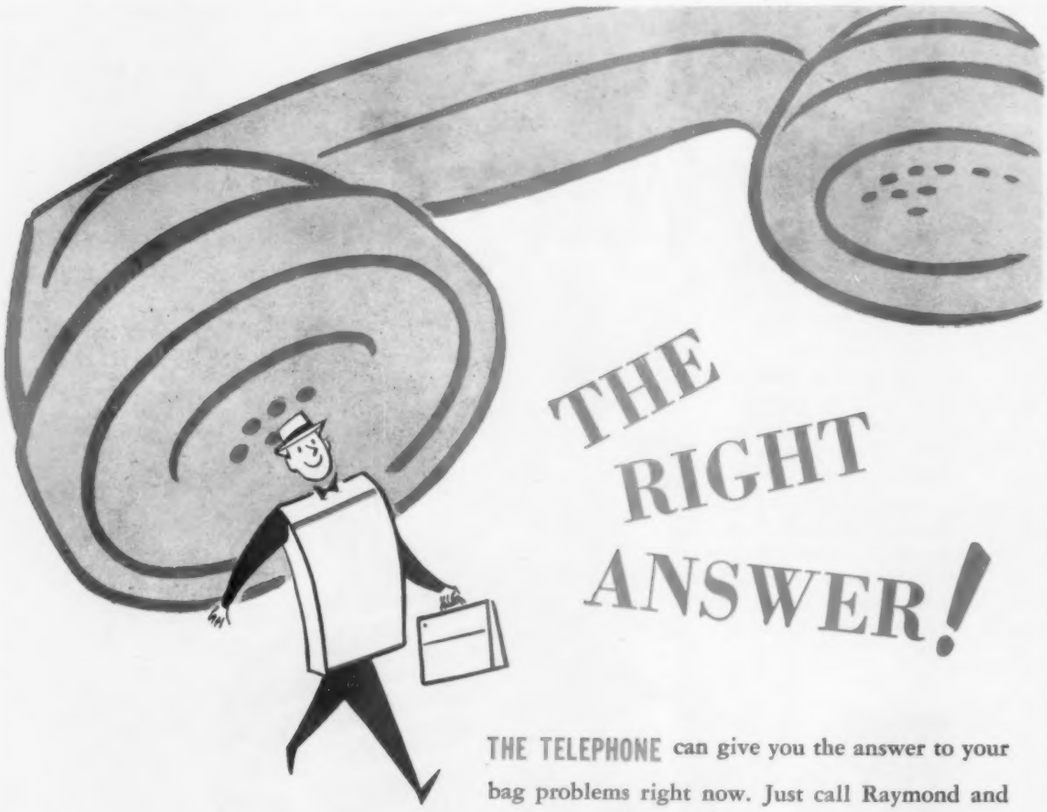
The best weight gains and feed efficiencies were on the rations containing rice, oats and wheat. Based on the data, the authors said, it appears that oats, barley, wheat and milo may be substituted for corn in rations fed to swine without loss in growth rate or feed efficiency. When brewers rice is at a price competitive with corn, it may be used also.

Emmett McCollester Joins CCA at Enid

KANSAS CITY—Emmett McCollester, who has been sales representative for Nutrena Mills, Inc., in the Wichita, Kansas, area, has joined the staff of Consumers Cooperative Assn. and will work out of the cooperative's feed mill at Enid, Okla.

Mr. McCollester, a graduate of the College of the Ozarks at Clarksville, Ark., had been with Nutrena since completion of a year of duty with the Air Force during the Korean conflict.

In his new position he reports to Melvin P. Miller, another former Nutrena employee who went to CCA Sept. 1 as head of the feed department with headquarters at Kansas City.



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These days, "a small service charge" is likely to refer to the service, not the charge.

◆ ◆ ◆

Note from teacher on Jane's report card:

"Good worker, but talks too much."

Note from father under signature: "Come up sometime and meet her mother."

◆ ◆ ◆

A husband's better judgment is what tells him not to insist on it.

◆ ◆ ◆

If I were king for one day, I would make every program in radio a giveaway show; when the studios were filled with the people who encourage these atrocities, I would lock the doors. With all of the morons in America trapped, the rest of the population could go about its business.

◆ ◆ ◆

Meeting at a social gathering, a lawyer called a physician friend aside and said, "I hate to come to these things. People are always asking for free advice. Do you have to put up with that too?"

"Why, yes, people are always approaching me for free medical advice," said the doctor. "But I stop them in the midst of reciting their symptoms with a curt arbitrary command—'Disrobe.' After that, I really have no trouble."

◆ ◆ ◆

The lawyer was browbeating the witness. "I understand," he said fiercely, "that you called on the defendent. Is that so?"

"Yes," replied the witness.

"What did he say?" continued the lawyer.

At this point the counsel for the opposition objected that evidence as to conversation was not admissible. An hour's argument ensued. Then the court retired to consider the point, returning after considerable time to announce the question a proper one.

"What did he say?" repeated the lawyer, with a confident smile.

"He wasn't home, sir."

◆ ◆ ◆

In spite of the growing popularity of canned and frozen fruit juices, most guys still like to squeeze their own tomatoes.

◆ ◆ ◆

A number of show girls were entertaining an isolated army camp. They had been at it all afternoon and were not only tired but very hungry. Finally at the close of their performance the major asked, "Would you girls like to mess with the enlisted men or the officers this evening?"

"Doesn't make any difference," spoke up a blonde, "but we've got to have something to eat first."

◆ ◆ ◆

A pessimist is an optimist who voted for a politician he thought would eliminate government waste.

◆ ◆ ◆

"Hello, tower—Come in, tower. I can't see through this fog and am running out of gas. Give instructions."

"Tower to pilot—tower to pilot. Repeat after me: 'Our Father, who art in Heaven . . .'"

◆ ◆ ◆

Conference: The confusion of the loudest talking guy multiplied by the number present.

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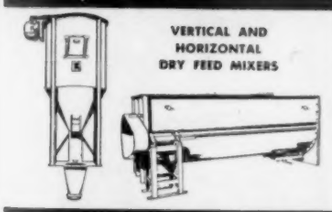

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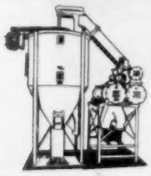

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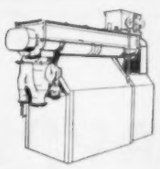

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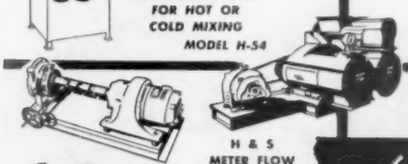

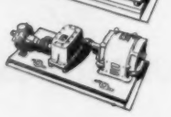

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Animal Fats in Feeds—V

Characteristics and Requirements Of Stabilized Fats for Feeds

By Clark B. Rose

EDITOR'S NOTE: This is the fifth and last of a series of articles on the handling and mixing of stabilized animal fats in feeds. These articles have been prepared through the cooperation of the National Renderers Assn., and authors are directors or members of the association. In the accompanying article, Clark B. Rose, of Darling & Co., Chicago, explains the characteristics, grades and requirements of animal fats used in feeds. This background information on fats supplements the information and comments in previous articles on feed mill handling of fats and feeds containing added fat, and it will be of particular interest to feed men who may not be aware of some of the characteristics and requirements of fats.

Clark B. Rose

Fats are a source of very high concentration of energy. Per pound of feed consumed, their caloric, or fuel, value is considerably higher than many feed ingredients whose function is to supply body energy. Therefore, the potential possibilities of speeding up growth rate and utilizing higher energy rations were attractively enhanced by the prospect of fortifying the energy level of feeds through the addition of fat. Nutritional work has demonstrated many of the advantages of added fat in feeds.

When the use of "fat stabilizers" or "antioxidants" was established, the primary obstacle holding up the use of fats in feeds was overcome. The energy giving nature of fats is due to their oxidizability. This characteristic also made them subject to the development of rancidity. The application of the antioxidants in very small amounts, such as 1 lb. per ton, not only protected the fats against rancidity but helped to protect some of the essential feed vitamins against the same sort of oxygen deterioration.

The antioxidants which are used are the same which are used to preserve edible fats and shortening for human consumption. Approval of each antioxidant and its allowable quantity is determined by the Food and Drug Administration. This is a very fortunate circumstance since it protects the public, the feeding fat producer, the feeding fat user and the antioxidant manufacturer, all at the same time. Approved materials are carefully determined to be biologically safe and their dependable protection is assured.

Number of Products

There are a number of fat products available to the feed manufacturer. Their characteristics vary considerably, primarily in appearance factors, such as color, hardness or titre, and free fatty acid. The free fatty acid, or F.F.A. as it is called, represents one of two basic chemical groups which constitute fat. The other is glycerine, itself an edible product. The F.F.A. is also edible, and its energy content is actually higher than either glycerine or fat, with glycerine the lowest of the three.

The hardness, or "titre", as it is called, of the fat is a function of the fat composition. Softer fats are known as "greases", while the hard-

TABLE 1—Standard Tallow and Grease Specifications

	Free Fatty Acid % Max.	Moisture, Insolubles, Impurities % Max.	—Maximum Color— Raw F.A.C. Color	Refined and Bleach Lovibond Red Color	Titre °C. Min.
TALLOW—					
Fancy	4	1	7	2	41.5
Bleachable Fancy	4	1	..	2	41.5
Prime	6	1	13	..	40.5
Special	10	1	19	..	40.5
No. 1	15	2	37	..	40.5
No. 3	20	2	39	..	40.5
No. 2	35	2	..	..	40.0
GREASE—					
Choice White	4	1	11	2	37.5
A—White	8	1	15	..	37.5
B—White	10	2	19	..	37.0
Yellow	15	2	37	..	37.0
House	20	2	39	..	37.0
Brown	35 or over	2	..	..	37.0

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★ Solvent Extracted Meal or Pellets

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Minnesota 36% PROTEIN LINSEED MEAL

er ones are called "tallows". There is not very much difference chemically in these two classifications and apparently little, if any, difference nutritionally. It has also been demonstrated that the biological value is not related to the F.F.A. of the fat. Free fatty acid does not affect the protective action of antioxidants as the fatty acids themselves are stabilized by the same antioxidant effect as that which protects the fat.

The animal fats offered in the tallow and grease market have been customarily graded according to the specifications listed in Table 1. These grades were determined for the requirements of the soap and fatty acid industries, and the specifications do not accurately define the quality of the fat for feeding purposes.

The essential requirements of a feeding fat are covered instead by the properties directly related to feeding values. Instead of F.F.A. and color being the determining factors, as you will note in Table 1, a feeding fat should be valued instead on its stability, and on its physical condition with respect to moisture, clean condition and freedom from rancidity.

Stability is the prime factor since its effect will be evident not only in the fat itself, but in the vitamin stability of the feed with which it is mixed. The recognized standard for a good feeding fat is an Active Oxygen Method stability of 20 hours. By definition this is a fat which, after 20 hours of exposure to controlled air oxidation in standard A.O.M. apparatus, will show an analytical Peroxide Value (P.V.) of 20 milliequivalents per 1000 grams of fat.

A more direct, and simpler, way of measuring the same "P.V." value is to put the fat sample in the A.O.M. apparatus for 20 hours, using the same standard air conditions, and then titrating the P.V. at the end of the 20 hours. If the 20 hour P.V. is less than 20, the fat sample meets the standard requirements. The lower the "P.V." value below 20 in the 20-hour test, the better the stability of the fat. This revised method measures the stability by the same method but requires only 20 hours to do so.

Moisture in feeding fat should be kept low. The reason for concern about it is very simple. Most of the effective stabilizers use citric acid as fortifying agent to improve the efficiency of the primary antioxidant. Citric acid is much more soluble in water than it is in fat. If free water is present in the fat, it will effectively remove the citric acid and reduce the efficiency of the antioxidant accordingly. For this reason, moisture should be kept from the fat until it has been added to the feed. The normal moisture in the feed will not affect this problem since that moisture is confined to the other feed ingredients and will not be absorbed by the fat.

This need for low moisture does apply throughout the period of storing and handling the fat itself and explains the need for avoiding the blowing of steam into the storage tank, the need for avoiding leaky heating coils, and the wisdom of pumping off the bottom of the fat storage tank at all times so as to keep any condensed moisture that might accumulate in the tank, removed steadily and promptly to the feed where its small quantity will be lost in effect and do no harm.

The feeding fat should be relatively free of heavy suspended solids since their presence results in mechanical problems, such as frequent cleaning of storage tanks and plugged spray nozzles where sprays are used to apply the fat. Generally speaking, a small amount of suspended solids is not harmful, since they are characteristically animal protein or mineral. As such, they are not nutritionally objectionable. The need for control rests instead on the mechanical problems mentioned above. Excessive insolubles are a nuisance, and results from poor handling on the part of the producer.

The full measure of success in the use of animal fats in feeds will be accomplished by the cooperation of the fat producer, the antioxidant producer and the feed manufacturer, who uses the fat product. Careful and dependable quality production by the feeding fat producer is essential. Continued mutual effort with the antioxidant manufacturer will likely give cheaper, as well as, more effective rancidity protection in the future. Combining these efforts with the nutritional and blending know-how of the feed producer should then result in continued progress toward cheaper, better, and more efficient results in all the animal feeding industries.

Feed Grain Firms Get Small Business Loans

WASHINGTON—Several feed and grain firms have been granted loans by the Small Business Administration, it has been announced by Wendell B. Barnes, administrator.

Among the loans approved in September were the following: Henderson Seed Co., Iola, Ill., $22,000, grain storage; Western Pennsylvania Fur Farmers Cooperative, Ebensburg, Pa., $50,000, animal food; F. H. Geiger Grain & Feed, Everest, Kansas, $37,500, grain storage; George E. Kissner, Wayne City, Ill., $20,000, grain storage; Castana (Iowa) Grain Co., $25,000, grain storage; Teefey Feed Co., Mt. Sterling, Ill.; $12,000, retail feeds; Lacy Feed Co., Maxwell, N.M., $30,000, feed dealer; Farmers Supply, Beaver Dam, Ky., $15,000, grist mill; Bryant Milling Co., Saratoga, N.C., $10,000, grain and feed mill.

During September, 512 loan applications were received by the SBA for a total of $27.7 million, compared with the August total of 439 applications for $26.1 million. During September, SBA approved 201 loans for a total of $7.5 million.

11 States Represented At Whitmoyer School

MYERSTOWN, PA.—The fall session of the Whitmoyer Poultry Health and Nutrition School was held here recently by Whitmoyer Laboratories, Inc.

Poultry servicemen, hatcherymen, feed men and poultrymen from 11 states and Canada were present for the intensive three-day course. Lectures, demonstrations, visual educational aids and student participation were utilized in the instruction program.

The next session of the Whitmoyer school is scheduled for Nov. 26-28. Anyone interested in learning more about the school is invited to write to Dr. J. R. Wiley, Whitmoyer Laboratories, Inc., Myerstown, Pa.

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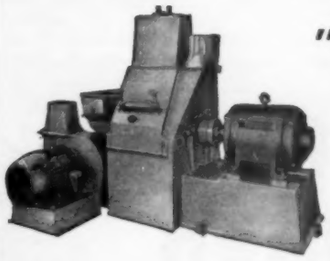
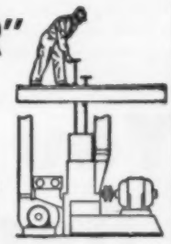


"MASTER"
55 to 140 H.P.
Instant Screen Change from Service Floor



"AJACS"
20 to 150 H.P.
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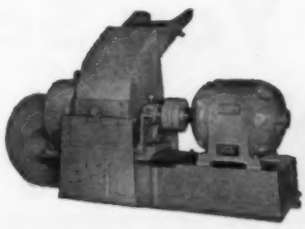

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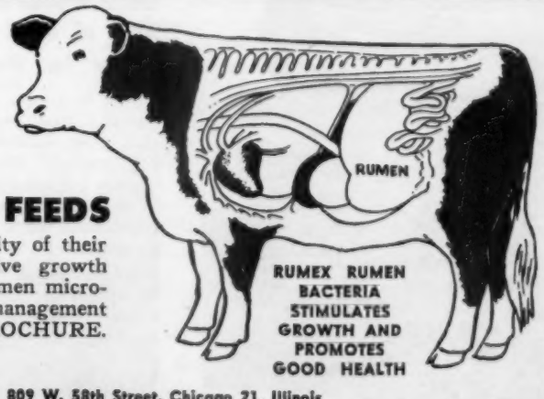

VITAMINS, INC.
809 W. 58th Street, Chicago 21, Illinois
Basic Material Manufacturers and Headquarters for Technical Information.

Does Incentive Help

By Al P. Nelson

It was four o'clock on a grey, depressing fall day, and the employees of the Brooks' Feed Mill didn't show much initiative under such weather conditions. In fact, all of them looked a little depressed, too, and moved slowly about their tasks.

At 4:15 p.m. Rusty Hagen, the faithful, runty bookkeeper, came out of the office, walked into the salesroom and called the men together. He held an envelope in his hand.

"Boys," he said, "just before Joe and Mary drove to that convention in Des Moines this afternoon, Joe handed me this letter and said I should open it at 4:30 this afternoon and read it to all of you."

Milt Peters, Butterball Barlow, Smiley Johnson, Pop Henley, Mike Jones and John Balza stood with puzzled expressions on their faces.

"I suppose," Milt Peters said, "Joe wants to remind us to get in there and work twice as hard when he's gone as when he is here—just so he can make more profit. And just when I was intending to sleep more on the job these three days."

Rusty Hagen said nothing and opened the letter. He cleared his throat and read:

"Dear Fellow Workers:

"I know that it is going to be a little hard for you these next three days while I am away, because once in a while I do help wait on customers and ease the rush.

"So, in order to compensate for my absence I am going to make you boys a proposition. I will be glad to divide among you 50% of the net profits on any volume you sell while I am gone, over and above the volume we had on the same three days last year. In addition, whether you make the desired net profits, I will pay each employee a special $5 bonus for having extra work to do over the three-day period. Good luck, and don't burn the mill down."

"Gee," said Butterball Barlow, "Joe is not so bad. Whether we work harder than ever or not, we still get a special $5 bonus."

Milt Peters had been thinking hard. Suddenly his eyes lighted. He slammed one fist into the palm of the other hand. "Boys," he said, "do you know what this means? It means we got a chance to make some extra mazuma for ourselves, maybe $10, $25 or even $50."

"How's that?" asked John Balza, who was a little slow getting things.

50% Owners

"It's like this," Milt said, "for the next three days we are practically 50% owners of this joint, with a chance to up sales and make plenty of profit. I consider this a challenge to our initiative, boys. Joe don't know it, but as far as I'm concerned he is going to shell out a lot of profit to me when he gets back."

"Me, too," said Butterball Barlow. "I think I'll cancel my date tonight and start calling on farmers. Maybe I can sell four or five tons of feed."

"Hugh, I was figuring on doing the same thing," John Balza said. "I'll get an earlier start than you. But stay off Route 6. That's where I'm going."

"Says you," came back Butterball. "This is wide open territory to sell. And I'm bookin' orders for spring fertilizer, too. That'll count in the profit."

Pop Henley chuckled. "If you fellows are going to sell all this extra feed and supplies, maybe we ought to order about five extra carloads of feed to take care of the demand. And who is going to boss this whole big three-day campaign? All of us can't go off half cocked."

"That's it," Milt Peters said thoughtfully. "I want that extra profit, but I can't trust myself. If I meet a red-headed farmer's daughter and she appeals to me, I might not make any more calls that day. I might stay right there. So—I nominate as boss of our employee drive for more business, none other than Pop Henley, the guy who hates women. We are safe with him in charge."

Pop Takes Over

And so Pop was nominated boss. Gone now was all trace of depression although the day was darker than before. Pop was decisive, just as in the days when he was a star mayonnaise salesman for a leading Midwest food concern. "Butterball,

You Sell The Best When You Sell GRAN-I-GRIT

THE GRIT WITH THE SHARPEST GRINDING EDGES EVER CUT

You are insuring your Future Profits when you sell GRAN-I-GRIT . . . the BEST Poultry Grit . . . because GRAN-I-GRIT will repeat in ever increasing volume for you.
That's WHY Dealers and Jobbers have become so enthusiastic about selling GRAN-I-GRIT.

GRANI-I-GRIT'S Sharper Grinding Edges Release More Nutrients from Feed

GRAN-I-GRIT with the sharpest grinding edges ever cut, grinds feed finer in the gizzard. Finer grinding of feed releases more nutrients for every pound of feed consumed.
These EXTRA valuable body building nutrients that GRAN-I-GRIT gives are a great aid in speeding growth, body development and weight gains of broilers and in getting more profitable feed conversion.
Top broiler growers and egg producers use and recommend GRAN-I-GRIT. They know from experience that GRAN-I-GRIT is the finest profit producing grit they can use.
GRAN-I-GRIT is insoluble. It will not dissolve and does not change the mineral balance of feed.

It's a Fact . . . GRAN-I-GRIT Has *Eye Appeal* for Poultry of All Ages

Poultry must consume the proper amount of grit to get maximum results from feed and GRIT MUST HAVE EYE APPEAL before poultry will eat it.

Side by side tests have proven that chickens and turkeys of all ages prefer a light gray grit with black specks . . . THE GRAN-I-GRIT TYPE . . . as much as 10, 15 and even 100 to one over grit of other colors.

When poultry raisers know this fact they insist on GRAN-I-GRIT.

HERE IS NEWS

Learn how GRAN-I-GRIT Research Proved FEEDING Larger Sizes of GRIT Makes More Money for Poultry Raisers.

There is a new GRAN-I-GRIT circular that explains in detail this new GRAN-I-GRIT feeding method that makes more money for poultry raisers. You, as a poultry grit Dealer or Jobber should write for a Free copy at once.

GRAN-I-GRIT is packed in 10 lb. and King Size (App. 22 lbs.) Feeder Packs and 25, 50 and 80 lb. bags.

NORTH CAROLINA GRANITE CORPORATION
MOUNT AIRY NORTH CAROLINA

KAFIR & MILO
Largest Dealers In Southwest
MID-CONTINENT GRAIN CO.
Kansas City, Mo.

John and Milt—you fellows do the canvassing evenings. We'll map out the territory each is to cover. No overlappin'. We've only got three days, we have to make every day count."

"Can't we keep the mill and store open nights?" Smiley suggested. "Then we can accommodate more farmers."

"No," said Pop, "that would disrupt Joe's policy. Whatever extra we accomplish has got to be during regular hours. Of course, outside selling can be done at night. Joe often goes out on night calls, when necessary."

"Gee, I would like to rig up a special three-day bargain table," said Mike Jones, "for cat and dog stock. Then I would dress up like a clown and parade the parking lots that farmers visit in town, with a sign on my back, 'Come to Brooks Cat and Dog Sale. Prices Way Down. You Can Buy Almost Anything Cheap, Except Old Maids'."

And so it went. All of Joe's employees were animated and eager, just because each saw a chance to make a few extra dollars for himself.

When Joe Brooks got back from his convention trip, he met Ed Simmons, a dairy farmer, at a downtown restaurant where Mary and he stopped for a cup of coffee about 10:30 that night, three days after he left his mill in the employees' hands.

"I won't be needing any dairy or poultry feed for about three weeks or more," Simmons laughed. "Those men of yours were selling like crazy when you were gone."

Joe's eyebrows lifted. "I hope they charged regular prices," he said.

Politeness Is Noted

Simmons nodded. "I didn't get any special deal, Joe, I never saw such changes in employees as when you were gone. What happened? Are they so glad to see you go away? Do you treat them like dirt when you are with them? The whole town is talking about how polite and cheerful and willing these men are—especially the last few days."

Joe laughed. "Is that so? Well, Mary, perhaps we should get in our car and take a trip somewhere else for two weeks or more."

His wife shook her head. "Not me. I want to get back to my home and the children. And you will be busy at the mill figuring up that 50% profit you are going to give your men for extra sales the past three days."

Ed Simmons grinned. In his eyes there was a knowing look. "So that's the deal. That's why they are working so hard. You are going to give them an extra buck or so for doing somethin' on their own."

Joe nodded wisely. "Ed," he said, "it works every time. Give a man a chance to make an extra buck now and then, and if he's got it in him, he'll jump at it like a hungry bass at a bait."

The farmer nodded. "I've seen it work on the farm, too, Joe. So long as Americans feel like that about an extra buck or two, I guess they won't sleep late in the morning. In fact, that 'git' is what makes the wheels go 'round in many communities, ain't it?"

Joe agreed. "And I'm glad to see that my men have it," he said. "It means our sales training meetings are taking hold. I'll be tickled to pay that 50%. And I'll make extra profit on the whole deal, too. When you need more dairy and poultry feed, Ed, be sure to call on us."

Ed Simmons laughed. "There you go, trying to sell feed again. You can't help it, I guess. Just like I like to plow and farm and grow crops and raise livestock. It's in our blood."

DIVIDEND DECLARED

BUFFALO, N.Y. — Directors of Spencer Kellogg & Sons, Inc., have declared a quarterly dividend of 20¢ a common share, payable Dec. 10 to stockholders of record Nov. 2. The company paid a similar amount in previous quarters this year.

FIREMEN SAVE ELEVATOR

DARLINGTON, IND. — A warehouse of the Farmers Feed & Grain Elevator was saved from fire when volunteer firemen rushed into the smoke-filled upper stories to extinguish the blaze. The fire was confined to one room.

NEW from Hess & Clark

bifuran

The bonus-benefit coccidiostat

Improves feed conversion

Bifuran tests show savings of up to ½ pound feed per 3-pound bird . . . may increase profit 2¢ to 3¢ per bird. C-4

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with the new B&L Complete PORTABLE FORMULA FEED BLENDER

A COMPLETE FEED PLANT ON WHEELS!

INCREASE YOUR SALES VOLUME!

HERE'S AN ADDED SALESMAN THAT PRODUCES SALES . . . AND "FARM FRESH" FORMULA FEEDS!

B & L users are reporting increases in sales volume as high as 50% from this new service . . . and getting new customers too! This is important to you in view of existing conditions today. B & L users report, too, that they are producing the same quality formula finished feeds as large stationary plants. Feed is uniformly mixed with no trace streaks or lumps . . . every time! Feeders report more economical gains and appreciate the time and effort saved by using their own grain and roughage and mixing right on-the-farm. B & L is truly the most complete machine on the market today.

ON-THE-SPOT OPERATION

All controls and gauges are centrally located to save time and work on the part of the operator. Speeds production for extra profit.

A new service your customers will appreciate . . . better check into it, now!

Check this combination of EXCLUSIVE features!

- ★ New Hydraulic Drives.
- ★ Carries both concentrates and molasses.
- ★ Completely controlled.
- ★ Pre-mixer affords triple mixing action.
- ★ Blends more molasses.
- ★ Higher speed mixing from low to high range.
- ★ More mobile . . . lighter weight (under 12,000 lbs. complete).
- ★ Simpler operation—operates from one spot.
- ★ No trace streaks . . . no lumps.
- ★ Produces top quality feed.
- ★ Not just a batch mixer . . . continuous grinds and blends.
- ★ Needs no auxiliary power.
- ★ Screw conveyor moves material from mill. (Fines and coarse never separate as they would if air were used.) Also saves horsepower and eliminates abrasive action.

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Classified advertisements accepted until Wednesday each week for the issue of the following Saturday.
Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies.

Classified advertising rate not available for commercial advertising. Advertisements of new machinery, products and services accepted for insertion at minimum rate of $9 per column inch.
All Want Ads cash with order.

MACHINERY FOR SALE

CRIMPER AND FLAKING ROLL, SIZE 12x30 with steamer. Jay Jones, 2222 Oakview Dr., Jefferson City, Mo.

NO. 2 PURITAN MOLASSES MIXER — Factory rebuilt. Guaranteed as new. J. D. Vance, Box 497, Murfreesboro, Tenn.

WEIGH BUGGIES, SPECIAL OCTOBER and November price. Mill Equipment Sales, Box 222, Hillsdale, Mich.

CHAMPION MOBILE GRINDER AND MIXer units. Champion Portable Mill Co., 2105 Como Ave. S.E., Minneapolis 14, Minn.

ONE HALL DISTRIBUTOR, NEW, NO. 710; big discount. McLaughlin, Ward & Co., 409 S. 23rd St., Jackson, Mich.

WRITE HUGHES ENGINEERING CO., Wayland, Mich., when you need electric motors, feed and flour mill machinery.

FOR SALE—1954 MOBILE DAFFIN FEED Unit. Chevrolet truck, very good shape. Priced to sell. Address Ad No. 2128, Feedstuffs, Minneapolis 1, Minn.

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TWO FIELD QUEEN CHOPPERS, NOW running and in good condition; will sell with or without trailers. One Super Giant Alfalfa Meal Packer, nearly new. Northern Colorado Alfalfa Milling Co., LaSalle, Colo.

FOR SALE—ENCLOSED MOTORS, RICHardson Scales, truck scales, hammermills, oat crimpers, horizontal and upright feed mixers, sewing machines, elevator legs, screw conveyors, molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

FOR SALE—NO. 3-AT JAY BEE MILL, 15" screen width with collector piping, magnet, "V" belt drive, Allis-Chalmers 75 H.P. motor type AR-226-D, style No. 29242K-226D-1-1 for 220 volts. Write or phone Robert Bersch, Tony Bersch and Son, Elkhart, Ill.

FOR SALE—MODEL 81 ROTEX SCREENer, single deck, standard dust tight, 60"x 120" surface, complete with 3 H.P., 1,800 R.P.M., 220/440 totally enclosed motor and four extra screen frames. Used very little. Call or write Kaw Dehydrating Co., Inc., P. O. Box 1098, Topeka, Kansas.

FOR SALE—NO. 3 UX JAY BEE 16" MILL with collector, piping, base coupling with 50 H.P., 3,600 R.P.M. Westinghouse motor and Cutler Hammer starter in service now, priced right, available soon. Write or phone Uhl-Snider Milling Co., Connersville, Ind.

FOR SALE — NEW NO. 710 HALL DIStributor, cheap; Davis 10x10 Grain Krimping Roll, with or without power, bargain; 40 cu. ft. S. Howes Horizontal Mixer, rebuilt, like new; Kelly Duplex Molasses Blender, used very little; 15 ft. Prater Drag Feeder, rebuilt. McLaughlin, Ward & Co., 409 S. 23rd St., Jackson, Mich.

FOR SALE — ALLIS-CHALMERS ROTARY Steam Dryer, Meal Coolers, Marley Cooling Tower, Hoffman Centrifugal Blowers, Webster Automatic Power Shovel Units, Roots-Connersville Blowers, Heat Exchangers, Prater Pulverizers, V. D. Anderson Expeller Parts, Scales, Pumps, Eureka Dust Collectors, Valves and Electric motors. A-1 condition. Contact Lee Atherton, Archer-Daniels-Midland Co., Investor's Bldg., Minneapolis 2, Minn.

FOR SALE
FEED MILL MACHINERY
1 No.-453-A Eureka Cracked corn cleaner grader
6 Various types Richardson automatic scales
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1 100 h.p. J. B. Hammer Mill
1 H&S Model 54 mixer
4 Vibrox packers
Write or phone
J. T. Gibbons, Inc.
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New Orleans, Louisiana

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WHIRLAWAY AIRBLAST CAR LOADERS. J. E. Hagan Mill Machinery, Jefferson City, Mo.

WHEN YOU ARE IN THE MARKET FOR new or used mill machinery, electric motors or any other equipment, write J. E. Hagan Mill Machinery, Jefferson City, Mo.

A-1 RECONDITIONED BULKMASTER, bulk feed delivery bodies, mounted on late model trucks. U. E. Fitzpatrick & Co., P. O. Box 184, Warsaw, Ind.

FEED MIXER, 1-TON CAPACITY, GUARanteed first-class throughout, 5 H.P. motor drive. Ad No. 8774, Feedstuffs, Minneapolis 1, Minn.

FOR SALE—SPROUT-WALDRON 336 CU. Ft. (12,000 lb.) horizontal ribbon dry mixers; S-W type 3036 swing head blender with 50 H.P. motor; 4'x30', 6'x30', and 6'x60' rotary steam tube dryers; 3'x24', 4'6"x40', 5'6"x30' rotary hot air dryers. Hammermills, pulverizers, attrition mills, etc. Perry, 1403 North 6th Street, Philadelphia 23, Pa.

EQUIPMENT OF FEED MILL ON STATE Highway No. 20, 1 mile west of town, offered for sale to settle estate—32" hammermill, hay or grain, 100 H.P. motor; 18" hammermill, grain, 50 H.P. motor; three grain pits; 25' and 35' elevators, with cups; Wenger molasses mixer, 15 H.P. motor; molasses pit, 35 ton; molasses pump, 3 H.P. motor; three hoppers, equipped with auger and percentage control, motors; mineral percentage control feed connected to molasses mixer; percentage feeder to hay mill for mixing grain, hay, etc.; 2 ton vertical mixer with pit, etc.; elevating sack conveyor, 20'; 2 ton Miller fork lift; platform 20' scale; pallet scale; three floor scales; hay bale chopper and conveyor to mill automatic with controlled feed motors; about 300 pallets; 26' steel bulk pallet tanks; small tools, hay hook, shovels, etc. Bookkeeping cash register, National; sack cleaner, 7½ H.P. motor; building 100x212, concrete floor and over one acre of ground. Also three bedroom, 2 baths, full basement house, next to mill. Write Swanson & Son, Route 4, Colusa Road, Yuba City, Cal.

MACHINERY WANTED

WANTED — USED MOLASSES MIXER Outfit. Yoder Dairy, P. O. Box 323, Hutchinson, Kansas.

WANTED TO BUY — RICHARDSON scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

DRYERS, DEHYDRATORS, HOT AIR 5x40 or larger. Hammermills 75 H.P. up. Vertical mixers and conveyors. Immediate action. Address Ad No. 2046, Feedstuffs, Suite 3214, 551 Fifth Ave., New York 17, N. Y.

WANTED—USED BAG CONVERTER TYPE pneumatic unloading unit Sprout-Waldron, must be in good condition; state age, serial number and price wanted. Address Ad No. 2112, Feedstuffs, P. O. Box 67, Minneapilis 1, Minn.

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PEAT MOSS SALESMAN WANTED — Horticultural and poultry litter. Excellent side line. Commission. Exclusive territory offered. Superior Importers, 1421 West Chicago Ave., Chicago 22, Ill.

A NATIONALLY KNOWN FEED COMpany has opening for regional credit manager. A real challenge for the trained man who can assume real responsibility. Address Ad No. 2118, Feedstuffs, 141 W. Jackson, Chicago 4, Ill.

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Minnesota Poultry Convention Planned

MINNEAPOLIS—The program for the annual convention of the Minnesota Poultry Hatchery Assn. has been announced. The convention will be held Nov. 6-8 at the Hotel Radisson in Minneapolis.

One of the speakers will be Dean McNeal, vice president of Pillsbury Mills, Inc., who will evaluate the future of the poultry industry. Important trends in the industry will be analyzed by Cora Cooke, extension specialist in poultry, University of Minnesota; Bill Dankers and Harold Pederson, extension economists in marketing, and David L. Hume, assistant director of marketing, U.S. Department of Agriculture, Washington.

Information on a new breeding program will be presented by Dr. Elton Johnson, head of the poultry department at the University of Minnesota; Fred Ghostley, Ghostley's Poultry Farm; George Edmonds, Edmonds Trapnest Poultry Farm; Done Street, Street-Way Poultry Farms, and Irving Brown, Brown's Breeding Farm.

Respiratory diseases and chronic cholera will be covered by Dr. Ben Pomeroy of the College of Veterinary Medicine, University of Minnesota; Dr. S. B. Hitchner, American Scientific Laboratories, Madison, Wis.; Dr. James Harr, Dr. Salsbury's Laboratories, St. Charles, Iowa; Dr. C. D. Lee, Iowa State College, Ames, and Dr. T. A. Dorsey, South Dakota State College, Brookings.

Another feature of the convention will be a cost clinic.

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Careful Planning Is Needed to Prevent Dust Explosions

By Andrew Squier

In agencies responsible for fire fighting and fire prevention there is something that is known as the fire triangle. This triangle explains the three factors that are necessary for a fire to burn. To begin with there must be something to burn, which we call material. There must be oxygen, and there must be heat, or a source of ignition. We always have oxygen in the air. In most cases it is not practical to try to remove or control the air. In fire prevention we can do much work about the heat or the source-of-ignition side of the triangle. However, most of the work in fire prevention can be done on the "material" side of the triangle.

This may sound complicated, but actually it is not. It is so simple that we hardly recognize it. Each time we light a cigarette with a match or a lighter, it demonstrates the fire triangle. Cooking our meals, making our clothes, running our industries are operations with controlled fires. We would not be able to drive our automobiles if it were not for the elements of the fire triangle. Let's take a look at how it applies to driving an automobile: On the material side of the triangle, of course, we have gasoline for fuel, and we all know what happens when we run out of gas. On the source of ignition side we have the battery, spark plugs, and the coils. When any one of these fails, we are removing one side of the fire triangle. Gas and air are mixed in the carburetor. So we see how important the triangle is, yet how careless we often are with it.

Before I mention grain dust explosions, I would like to make sure that we all have the same understanding and definition of dust explosions. According to Webster, an "explosion is a violent bursting or expansion, with noise, following the sudden production of great pressure."

EDITOR'S NOTE: Mr. Squier is supervisor of plant services for the Kellogg Co., Battle Creek, Mich. This article is taken from the talk which he gave to the members of Wolverine District No. 6 of the Association of Operative Millers at Jackson, Mich.

With that in mind, we can say a dust explosion is a rapid burning of material which causes a rapid expansion of air which, in turn, produces "a sudden production of great pressure." The violence of an explosion depends upon the rapid burning of material. The faster it burns the greater the violence. The fastest and most violent of explosive materials today are the atomic and hydrogen bombs.

The term "explosion" as defined by law, has no fixed and definite meaning either in ordinary speech or law. It may be described, in a general way, as a sudden and rapid combustion causing violent expansion of the air and accompanied by a report. It may and does vary in degrees of intensity and in the vehemence of the report, and it is not always due to the presence of fire. It may result from decomposition or chemical action.

In our consideration of explosion, we should also consider implosion, which, for all practical purposes, is the opposite of explosion. It is the force of air rushing back to fill the vacuum created by the outgoing air of the explosion. Some experts say that the implosion does nearly as much damage as the explosion.

In some cases broken glass, doors or parts of outside walls have been found near the center of the damaged buildings. This indicates that the back draft had a very damaging force.

Another thing we should understand; I am keeping away from most of the technical details. Neither do I want to discuss engineering details. It is true that all explosions are alike, and it is also true they are all different. There are certain general procedures to follow, certain safe practices which must be adhered to. Each mill or elevator has its own technical details and engineering problems which should be discussed only when all the facts are available.

At Kellogg we do not consider ourselves experts in the field of dust explosions. We are the world's largest manufacturers of ready-to-eat cereals, but not the world's largest handlers of grains. I do not want to bore you with a lot of figures or statistics, but we use, yearly, over 13 million bushels of corn, nearly a million bushels of wheat, 74 million pounds of bran, 78 million pounds of rice, and 10 million pounds of malt. Even though we use that much grain, we handle only a small percentage of the grain produced. We use other products which can cause explosions, too, in such quantities as 50 million pounds of sugar, 177 million pounds of paper, 2 million pounds of glue, 4 million pounds of wax. The dusts from these products, like grain products, are explosive unless handled properly.

There are many things to consider in dust explosions: (1) the type of material, (2) the particle size, (3) closeness to one another, or the right mixture, (4) the amount of moisture in each particle or in the air, (5) the ignition temperature of the dust particles, (6) the explosive range, or the limitation of combustibility, (7) the rate of burning, and so on down the list. When all of these conditions are just right, we have an "explosive condition." At that point all we need is a spark, a flame, or a source of ignition. The spark may come from static, from a light switch or an exploding light bulb. It could be a match, a welder's torch, or any one of many other sources of ignition.

We might say this another way: The dust particles have to be close enough so the flame will spread. They must be far enough apart to get enough air (oxygen) to burn. But when explosive dust is kicked into the air or dropped through it, the right mixture with air is bound to exist somewhere in the dust cloud for a moment or two at least. So you have the makings of an explosion or a fire.

It would be better to say explosion "and" fire, because you usually get both. In fact, if there is much dust, you usually get two explosions plus a fire. The first explosion is usually small. It kicks considerable dust into the air and then there's a big one. The "big one" may wreck an entire elevator or building.

The frequency of grain dust explosions is not very high. But when they do happen, the severity is usually very great. The loss of life is usually high. The damage to buildings and equipment is often complete destruction. In many cases it is an innocent by-stander, the factory across the street or people who live in the next block, who suffer loss of life and property.

Pressures are built rapidly. Grain dust will build a pressure from 35 to 50 pounds p.s.i., starches from 40 to 75 pounds p.s.i., sugar dust from 25 to 45 pounds p.s.i. and flours from 26 to 50 pounds p.s.i. These pressures are built by the explosions, and the damage comes quicker than you can say "dust explosions." To realize the extensive damage, we have only to look at pictures of buildings after explosions to see the reinforced concrete walls that have been blown out, some of them 18 in. thick. We can see the bent and twisted mass of steel and rubbish, or look at pictures of buildings with all the window glass gone.

I will give you some figures on explosions in the cereal industry:

The ignition temperature of corn starch is 470°. The minimum spark energy is 40 millijoules. The minimum explosive concentrations in ounces per cubic foot are .045. The maximum explosive pressure in pounds per square inch is 72.

Corn cob ground and dried has an ignition temperature of 400°. It has a minimum spark of 60 millijoules, minimum explosive concentrations in ounces per cubic foot of .030 and maximum explosive pressure in pounds per square inch of 64. These figures are reported by the U.S. Bureau of Mines and are based on minus 200 mesh dust.

Now, what is a millijoule? I wanted to know, too, so I asked one of our engineers and this is what he said: "A joule is a unit of energy which will lift one pound .73767 ft., or about 9 in. To say it another way, a joule is the energy required to lift ¾ lb. 1 ft. A millijoule is one thousandth of a joule or .00073767 foot pounds. For 40 millijoules we simply multiply by 40, then we have .00295068. That is the amount of energy required to ignite corn starch dust." So that I might understand the quantity of energy, I was told such an amount of energy would raise one pound about the thickness of a sheet of paper.

We at Kellogg are safety minded and very fire conscious. We consistently watch for fire hazards. This, of course, includes dust explosions. Even with careful watching, we have had two explosions and fires in our milling division.

Prevention Is Possible

Dust explosions can be prevented. Here again let us look at the fire triangle. We know what it takes to make an explosion. So, if we can remove or control any one of the three sides of the triangle we can prevent an explosion and fire. The "material" side offers the greatest possibilities.

High on the prevention list are housekeeping and cleaning. Mills and elevators must be clean and free from concentration known as explosive conditions. This may require new equipment or remodeling or proper ventilating of old equipment. It may mean an educational program to employees or providing proper methods and tools for cleaning. But it certainly needs the wholehearted backing and insistence of management.

Overhead pipes and beams must be kept clean. Dust or dirt if allowed to collect on them is the first and biggest step to an "explosive condition." Dust or dirt on the floor will burn but won't explode. However, it might be disturbed by the first explosion and become part of the second. At any rate, it would be ideal fuel for the fire that might follow.

Welding and cutting should be allowed only when all fire prevention measures have been taken. Under certain conditions it might require shutting down of the mill or equipment. We must also be careful when construction work is undertaken. Many times construction men do not understand the problems and hazards in milling operations. Consequently they do not use the best methods of fire prevention. The use of an "open flame permit" system will help control this source of ignition.

The proper wiring for lights, switches and motors should be seriously considered. There are many fire prevention agencies and insurance companies which will provide detailed information on approved electrical wiring and electrical equipment.

FIRE TRIANGLE—Andrew Squier is pictured with the equipment used for his demonstration before the meeting of Wolverine District 6, Association of Operative Millers.

Static electricity has to be removed by permanent ground wires. Remember that static under proper conditions can cause an explosion.

Smoking should not be permitted in areas where there is any danger of dust explosions. Smoking rooms, ash trays, and metal lockers in a separate building should be provided for employees.

The proper control of insects is important, and remember that some insecticides or fumigants can explode and cause fires.

The flammability of some of the materials used in fumigants must be recognized and dealt with. Wherever possible use a fumigant that is not explosive, or keep the mixture below

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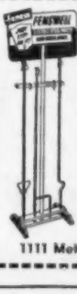
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HAMMERMILLS

ARKANSAS SPEAKERS—Speakers at the recent Formula Feed Conference at the University of Arkansas are shown in these photos. The pictures were taken at a press breakfast given by the Arkansas Feed Manufacturers Assn. In the first photo, left to right, are Loren Burns, Agri-Tech, Inc., Kansas City; Dr. Foster Owen, Dr. M. L. Ray and Dr. K. W. Scott, University of Arkansas, and Dr. C. K. Whitehair, Michigan State University. In the second picture are Wilfred Witz, Archer-Daniels-Midland Co., Minneapolis; Dr. J. H. Hare, Chas. Pfizer & Co., Inc., Terre Haute, Ind.; Dr. E. L. Stephenson, University of Arkansas; Maxwell L. Cooley, Hoffman-Taff, Inc., Springfield, Mo., and Dr. O. H. M. Wilder, American Meat Institute Foundation, Chicago.

the explosion limits. Some dry powders will not explode until mixed with other material. Some aerosols, if improperly used, can cause fires or explosions in mills.

Provide protection against lightning. Install magnets to remove magnetic materials from the flow of the grain streams. Other equipment should be provided to remove non-magnetic materials, such as pieces of concrete or stones because they, too, can provide the spark needed for a dust explosion.

Vent Properly

Proper venting of both the equipment and building will help to reduce damage in case of an explosion by releasing the explosion pressures. The required ratio of explosion vent area depends upon the strength of the structure. Reinforced concrete, brick, and wood plank each requires different venting areas.

You can always get into a discussion, even a heated argument, about the value of fire extinguishers in a dust explosion prevention program.

These are but a few of the things needed in a good dust explosion prevention program. If you are the owner or manager of a mill, it might be well to invite the local fire chief or the fire commissioner to visit your mill. You might discuss with him part of your operation, explaining the most hazardous process and invite him to visit those areas. The firemen would also like to know something of your water supply, and they may ask about doors for removing employees from a burning building. Perhaps the firemen are not familiar with your methods of processing or working. It is well for them to know about your fire prevention or fire fighting program. After all, if you should have a fire or an explosion, it is well for the firemen to know as much as possible about your property. Normally the fire chief will receive that type of information with open arms and use it to mutual advantage.

Finally, all dust explosions are serious, even the small ones, because they indicate that explosive conditions are present, and unless corrective measures are taken, disaster will surely follow. Explosions are costly in human lives, in material, in building and equipment and in jobs.

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F. M. Becker Heads Chicago Feed Club

CHICAGO—F. M. Becker, Farm Bureau Milling Co., Hammond, Ind., is the new president of the Chicago Feed Club. He was elected at the annual business meeting of the organization, held at the Lake Shore Club, Chicago, on the evening of Oct. 19.

Other newly elected officers, who will take office at the regular meeting next January, are: E. G. Horst, Calcium Carbonate Co., Chicago, vice president; George E. Fuhr, Spencer Kellogg & Sons, Inc., secretary, and M. A. Jurgens, Illinois Farm Supply Co., treasurer. Two new directors were elected. They are: William A. Harris, St. Regis Paper Co., and Don L. Huffman, Nellis Feed Co., Chicago.

Speaker for the meeting, which was attended by close to 60 members and guests, was George W. Rennix, Jr., National Football League referee, who reviewed the rules of professional football and told several anecdotes and experiences.

The next meeting of the club is scheduled for Nov. 16, and will be at the Furniture Club. The annual Christmas party will be held Monday evening, Dec. 17, at the Glass Hat Restaurant in the Congress Hotel.

FIRM INCORPORATES

DOVER, DEL.—Sauder Feed Service, Inc., has filed a charter of incorporation with the corporation department of the secretary of state's office here. Authorized capital stock of the firm is $750,000. The Prentice-Hall Corporation System, Inc., Dover, is serving as the principal office.

Testings of Heavy Breed Turkeys and Chickens Increase

WASHINGTON—The number of heavy breed turkeys tested during September for pullorum disease by official state agencies was larger than a year ago, while the number of light breed turkeys tested was less.

The number of chickens for supplying broiler hatching eggs also was up from a year ago, while the number of chickens for other purposes tested for pullorum disease was about the same as in September last year, according to a report by the U.S. Department of Agriculture.

Turkeys Tested

The number of heavy white breeds tested totaled 60,479, compared with 46,150 during September last year—an increase of 31%. Other heavy breeds tested totaled 183,075 compared with 123,348—an increase of 48%.

The number of heavy white breeds tested July through September totaled 152,450, compared with 88,295 during the same months last year—an increase of 73%. The number of other heavy breeds tested July through September totaled 278,857, compared with 172,247 during the same months a year ago—an increase of 62%.

The number of light breed turkeys tested for pullorum disease during September totaled 29,408, compared with 50,132 during September last year—a decrease of 41%. The number of light breed turkeys tested July through September of this year was approximately the same as a year ago. The number tested totaled 125,851, compared with 125,235 during July through September last year.

Chickens Tested

In the 40 states for which comparisons are available, 2,148,609 chickens for supplying broiler hatching eggs were tested for pullorum disease during September, compared with 1,788,280 in September last year—an increase of 20%. The number tested during the months July through September totaled 5,376,312, compared with 4,033,209 during the same months last year—an increase of 33%.

The number of chickens for other purposes tested for pullorum disease during September totaled 1,032,857, about the same as in September last year. The number tested July through September totaled 1,790,065, compared with 1,804,111 during the same period last year—a decrease of 1%.

This report is made possible through the cooperation of the National Poultry Improvement Plan and National Turkey Improvement Plan, official state agencies, the Animal and Poultry Husbandry Research Branch, Agricultural Research Service, and the Agricultural Estimates Division, Agricultural Marketing Service.

TURKEYS

(Continued from page 1)

heavy white breed hens in 10 states ranging from 3% in Missouri to 50% in Texas. Michigan, Washington and New York expect a decrease in holdings of 25, 23 and 3%, respectively. Increases in holdings of bronze and other heavy breed hens are expected in 12 of the states reporting, ranging from 7% in Pennsylvania to 50% in Iowa. Michigan expects to hold about the same number as in the 1956 season while South Carolina and Washington expect to decrease 10 and 7%, respectively.

States show considerable variations in their intentions to hold light breed turkey hens. Sharp decreases in number of light breed hens in Virginia, Missouri and Minnesota were partially offset by increases in Texas, California and Oregon. At the beginning of this year, these six states had three fourths of the light breed hens in the 15 states.

Turkey Breeder Hen Intentions—1957 Hatching Season

Intentions to Hold Turkey Breeder Hens at Beginning of 1957 Season as Per Cent of Holdings a Year Earlier

State	—Heavy breeds— Heavy white %	Bronze and other heavy %	Beltsville and other light %
New York	97	110	150
Pennsylvania	116	107	96
Ohio	117	109	100
Michigan	75	100	100
Wisconsin	113	117	100
Minnesota	110	124	80
Iowa	147	150	175
Missouri	103	120	70
Virginia	150	110	85
So. Carolina	100	90	85
Oklahoma	120	115	85
Texas	160	125	155
Washington	77	93	71
Oregon	*	115	102
California	110	115	110
Total 15 states	120	115	97

*Not shown to avoid disclosing individual operations.

Protein Meals Gain In Memphis Trading

MEMPHIS—Moderate trading in protein oil meal futures in the week ending Oct. 24 left prices slightly higher in nearby months at the Memphis Board of Trade.

The October soybean oil meal option expired at a discount under December and forward. This was due to less urgent demand for nearby soybean oil meal. December and forward months were steady during the week and met hedging by trade interests when they advanced. When prices dropped, they met some trade buying and short covering. A resurgence of speculative interest on the long side of the market appeared just in time to face hedge selling in deferred options.

An upturn in soybeans influenced rises in many options of soybean oil meal and cottonseed oil meal.

Cottonseed oil meal advanced rather sharply during the middle of the week and closed Oct. 24 as much as $1 a ton higher over the previous week in nearbys.

Unrestricted soybean oil meal Oct. 24 closing prices ranged 35¢ ton higher for nearby December to 25¢ ton lower for distant September. Eastern trunk line soybean oil meal closings were up across the board, ranging 25@75¢ a ton. Bulk cottonseed oil meal was $1 a ton higher to 50¢ a ton lower, and the sacked contract was $1 a ton higher across the board.

HEADS ST. LOUIS CLUB

ST. LOUIS—Eldred A. Cayce, vice president, Ralston Purina Co., St. Louis, has been elected president of the Tennessee Society of St. Louis.

Another Pair

MINNEAPOLIS—Roger Berglund, assistant managing editor of Feedstuffs, only a so-so poker player, has all the luck in some other lines, his friends are saying this week. His family now includes two pair or four of a kind, depending on how you add them up.

Mrs. Berglund presented him with twin boys Oct. 22. They already had the twins, Eric and Ann, 3½, and David, 7. The new arrivals weighed in at 4 lb. 10 oz. and 5 lb. 6 oz., and are doing well, as is Mrs. Berglund.

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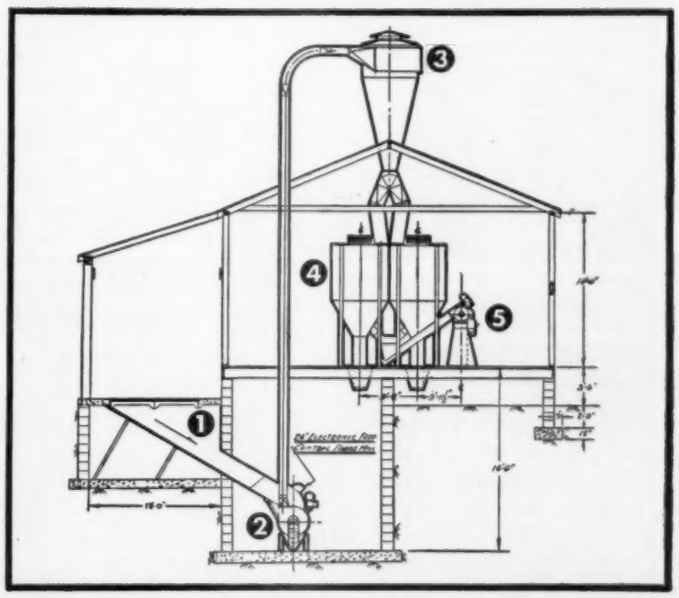
The Fords "Remote Control" mill (2) is operated electrically from any convenient location inside or outside the plant. A push of a button while the mill is running allows the operator to control the rate of grind as needed, to grind various roughages as well as ear corn and grain.

The ground material is then conveyed by the hammermill fan, through a Fords Dust Collector (3), directly into one of the two Fords Vertical Mixers (4). These specially designed mixers are mounted on scales that weigh the material in either mixer. The weight of the grist and supplements can be determined as the materials enter the mixers. The dry mix can be elevated into holding bin, bagged off or bulk unloaded into the customer's truck.

When molasses is to be added, the contents of either mixer can be conveyed directly into the Fords "Forced Feed" Molasses Blender (5). Here "forced feeding" handles the light bulky roughage feeds as rapidly as grain based feeds. The finished feed then is either bagged off and loaded or bulk loaded from the blender into the customer's truck.—As finished feed is being delivered to one customer's truck the next customer can dump his material into the dump sink where it is ready for immediate processing.



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Demand — Supply — Trends — Prices

Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

New York: Trend steady; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 13½@15½¢, 1,500 A 15½@17¢, 2,250 A 17½@20¢, 3,000 A 19½@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19½¢, 3,000 A 20@21½¢, f.o.b. Massachusetts, New York or Pennsylvania.

Minneapolis: 10,000 A 33¢ lb.; 300 D, 2,250 A 20¢ lb.; 300 D, 1,500 A 18¢ lb.; 300 D, 750 A 16¢ lb.

Denver: Demand fair; trend steady; supply ample; 2,250 A, 300 D 20¢ lb.

Seattle: Demand slow; trend steady; supply good; 300 D, 2,250 A 22¢ lb., 300 D, 1,500 A 19¢ lb., 300 D, 750 A 17¢ lb., all ex-warehouse, drums included.

Chicago: Demand fair; supply plentiful; straight A feeding oil, with 10,000 units vitamin A per gram 7½@9¢ a million units of vitamin A, l.c.l., packed in 55 gal. drums, f.o.b. Chicago, drums included.

Boston: Demand fair; supply adequate; 600 D, 1,500 A 18¢ lb.; 300 D, 2,250 A 20¢; 300 D, 1,500 A 17¢; 300 D, 750 A 15½¢.

ALFALFA MEAL

St. Louis: Demand fair; trend higher; supply limited; dehydrated, 17%, 100,000 A $63.50 ton; suncured No. 1 fine ground, 13% $50 ton, f.o.b. St. Louis.

Kansas City: Demand fair to good for limited supplies; offerings on open market very scarce, amounting to only an occasional car; blenders filling orders on contracts; new production practically ended with a few cleanup cars coming out of Nebraska; prices stronger and some blenders have advanced prices for next week to equal top of current week's range; 17% protein dehydrated alfalfa meal with 100,000 units of vitamin A guaranteed on arrival $58@60, sacked; 18½% protein and 125,000 A $63, sacked; 100,000 A pellets $55@57, bulk; non-guaranteed A meal $53@53.50; suncured demand slow and prices almost steady; No. 1 fine ground $44@45.50, sacked; No. 1 ¼-in. $42@43, No. 2 ¼-in. $38@40.

Portland: Demand slow; supply ample; trend unchanged; 15% suncured, Idaho $45, delivered Portland; 15% suncured, California $45; dehydrated $52, f.o.b. California.

Memphis: Demand good; trend steadv; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $63.

Minneapolis: Prices were unchanged this week, with demand fair. Quotations: 17% dehydrated, 100,000 units of vitamin A guaranteed $62.75@64.75, bulk; granules or oil treated $61.75@63.75; 18% dehydrated, 125,000 units of vitamin A guaranteed $67.75; granules or oil treated $66.75.

Omaha: Demand fair; supply ample; 17% dehydrated, 100,000 A, papers or burlaps $58@60.

Seattle: Demand slow; trend steady; supply good; 15% protein suncured $45 ton, 136,000 A unit dehydrated $65 ton, both delivered, carlots.

Denver: Demand fair; trend steady; supply limited; 100,000 A, 17% $55.

New Orleans: Demand good; trend higher; supply limited; 17% dehydrated, vitamin A guaranteed $66@67; non-guaranteed $60 @61; 15% $56@58.

Boston: Demand fair; supply adequate; dehydrated, 17% $66; suncured, 13% $54.90, nominal.

Ft. Worth: Demand good; supply limited; Nebraska-Kansas origin dehydrated, 17% protein, 100,000 A, nominal $66; California origin meal or pellets, truck $64, delivered Ft. Worth; suncured No. 1 13% protein, ¼-in. grind $51.25, prompt.

Philadelphia: Demand dull; supply fair; 17% dehydrated $74.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $68.15@71.15; 17% dehydrated, no A $61.15.

Los Angeles: Demand good; trend steady; supply ample; 15% suncured $39@40; 17% dehydrated $51@52.

Chicago: Demand fair; supply tight; 17% dehydrated, with 100,000 units vitamin A guaranteed $62@63.50.

Buffalo: Demand and supply fair; trend higher; $74, sacked, Boston.

ALFALFA PELLETS

Denver: Demand and supply fair; trend steady; 100,000 A, 17% $58.

ANIMAL FATS (STABILIZED)

Chicago: Demand slow; supply good; bleachable fancy tallow, tank truck or carlots 7¾¢ lb.; yellow grease 6¢.

San Francisco: Demand fair; supply ample; bleachable fancy 8¼¢ lb.; yellow grease 6¾¢ lb.

St. Paul: Following some strength as a result of export demand at mid-week, fats eased off later in the period as export interest dwindled and edible fats also declined. Quotations: bleachable fancy tallow 7¼¢ lb., f.o.b. producers' plants.

Denver: Demand good; trend stronger; supply ample; prime tallow 7¼¢.

Louisville: Demand fair; trend steady; supply normal; bleachable white 7⅛@7¼¢; white tallow 7⅜@8¢; yellow grease 6½¢.

Ft. Worth: Demand good; supply sufficient; prime tallow, tank cars 7½¢ lb.; drums 9¢, f.o.b. north Texas packing plants, with returnable drums.

Kansas City: Demand fair; trend firm; supply adequate; prime tallow 7⅛@7⅜¢ lb.; bleachable fancy yellow 7⅜@7⅝¢ lb.

Los Angeles: Demand fair; trend steady; supply ample; bleachable fancy tallow 7¢; yellow grease 6¾¢.

BARLEY FEED

Milwaukee: Demand good; supply fair; needles 97¢@$1.07; ground $17.

Ogden: Supply normal; rolled $50@55; whole barley $43@48.

Baltimore: Demand good; supply light; $51.50.

New Orleans: Demand fair; trend steady; supply light; pulverized $52@54.

Boston: Demand slow; supply plentiful; pulverized $50.75.

Seattle: Demand steady; trend firm; supply good; whole barley $60 ton, ground barley $60 ton, rolled barley $61 ton, all ex-warehouse, l.c.l., sacked.

Portland: Demand slow; supply ample; trend unchanged; rolled $60, ground $58.

Philadelphia: Demand dull; supply fair; pulverized $48.

San Francisco: Demand fair; supply ample; rolled $65, ground $64.

Chicago: Demand good; supply light, $42.

Los Angeles: Demand fair; trend steady; supply ample; standard rolled $3.40, standard ground $3.36.

BENTONITE (SODIUM)

Chicago: Demand very good; supply adequate; f.o.b. Wyoming and South Dakota shipping points; granular, 30 mesh $15.50; fine granular, 80 to 100 mesh $12.75; powder, 200 mesh $12.50; f.o.b. Belle Fourche, S.D., minimum 30-ton carlot: 80 granular $12.50 net; 200 mesh fine $12.25 net.

Denver: Demand fair; trend unchanged; supply ample; 200 mesh $26.50, f.o.b Denver warehouse.

BLOOD FLOUR

Louisville: Demand fair; trend steady; supply ample; $87.50@92.50 ton.

BLOOD MEAL

Chicago: Demand fair; supply adequate; $100@120 ton, guaranteed 80% protein.

Cincinnati: Demand fair; trend lower; supply adequate; $115.

San Francisco: Demand slow; supply ample; $5 a unit of ammonia.

Seattle: Demand dull; trend easy; supply sufficient; $85 ton, ex-warehouse, l.c.l.

Louisville: Demand fair; trend firm; supply ample; $87.50@92.50 ton.

Portland: Demand good; supply ample; trend unchanged; $95.

New Orleans: Demand slow; supply ample; trend steady; $87.50@92.50.

Los Angeles: Demand good; trend steady; supply ample; $5 a unit of ammonia.

Ogden: Demand weaker; supply average; $97.50 ton in 100-lb. bags, f.o.b. Ogden.

BONE MEAL (STEAMED)

Los Angeles: Demand fair; trend steady; supply ample; domestic $89.50.

Portland: Demand good; supply ample; trend unchanged; $90.

New Orleans: Demand fair; trend steady; supply adequate; $80@85.

Ft. Worth: Demand slow; supply adequate; $85, sacked, f.o.b. Ft. Worth, local manufacture.

Denver: Demand fair; supply ample; trend unchanged; $77.50, f.o.b. West Coast.

Cincinnati: Demand fair; trend steady; supply adequate; $80 ton, sacked, f.o.b. Cincinnati.

St. Paul: Market easier at $75 in large lots.

Seattle: Demand fair; trend steady; supply good; $85 ton, ex-dock, truck lots.

Omaha: Demand slow; supply ample; $85.

Boston: Demand and supply steady; $80.

Chicago: Demand fair; supply adequate; $80@85.

San Francisco: Demand good; supply ample; $82.50.

St. Louis: Demand good; trend steady; supply adequate; $90@95 ton, sacked.

Louisville: Demand slow; trend easy; supply normal; $80@85 ton.

Buffalo: Demand good; trend steady; supply ample; $85 ton, sacked.

BREWERS DRIED GRAINS

Boston: Demand active; supply tight; 26%, $62.50; Canadian, 22% $60.

Ft. Worth: Demand fair; offerings scarce; 26% $62.10, delivered Ft. Worth, October.

Louisville: Demand good; trend firm; supply normal; $53 ton.

New Orleans: Demand fair; trend steady; supply ample; $54@55.

Philadelphia: Demand dull; supply light; $61.

Buffalo: Demand and supply fair; trend steady; $57, bulk, Boston.

Chicago: Demand good; supply light; 26% $53@53.50.

Cincinnati: Demand poor; trend steady; supply somewhat limited; $58.

San Francisco: Demand fair; supply ample; $54.

Milwaukee: Demand good; supply fair; $52.50, Milwaukee.

St. Louis: Demand good; trend steady; supply ample; $44 ton bulk, $49 ton sacked.

Los Angeles: Demand fair; trend steady; supply ample; f.o.b. Van Nuys, bulk $48, sacked $55.

BREWERS DRIED YEAST

Los Angeles: Demand good; trend steady; supply limited; 5 tons or more 9¢.

Chicago: Demand good; supply limited; 10@11½¢ lb., in carlots; 10¼@12½¢, l.c.l.

San Francisco: Demand fair; supply good; 10¢ lb.

Denver: Demand fair; trend unchanged; supply ample; $11 cwt.

Omaha: Demand good; supply adequate; 11½¢ lb.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11½¢.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11½¢.

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11½¢.

New York: Carlots 9½¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

St. Louis: Demand fair; supply adequate; 10¢ lb. in carlots; 10½¢ lb. in 5-ton lots; 11¢ lb. in ton lots; 11½@12¢ lb. in less than ton lots.

Milwaukee: Demand good; supply limited; 10½@11½¢ lb. in carlots; 10¾@12½¢ lb., l.c.l.

Buffalo: Demand good; trend steady; supply limited; $10.75 cwt.

Portland: Demand slow; supply ample; trend unchanged; 13¢.

Louisville: Demand slow; trend steady; supply ample; 10¢ lb.

Boston: Demand and supply steady; 11¢ lb.

BUTTERMILK-CONDENSED

Portland: Demand slow; supply ample; trend unchanged; $4.75.

Louisville: Demand slow; supply normal; trend unchanged; $4.25 cwt.

New Orleans: Demand slow; trend steady to firm; supply ample; $4.25@4.75.

Boston: Demand fair; supply light; $3.75 cwt.

San Francisco: Demand fair; supply good; $5 cwt.

Chicago: Demand fair; supply adequate; $3.25@3.50 cwt. in carlots.

Philadelphia: Demand and supply fair; $4.25, barrels.

Ogden: Supply average; $4.90, 100-lb. drum.

Los Angeles: Demand fair; trend steady; supply ample; 100-lb. drums $5.50; large barrels $4.75.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight and tax)

New York: Crystals $13.97, flour $9.72.
Buffalo: Crystals $14.74, flour $10.47.
Toledo: Crystals $16.39, flour $12.14.
Boston: Crystals $15.15, flour $10.93.
Limecrest, N.J.: Crystals $9.75, flour $5.50.

CALCIUM CARBONATE

Cincinnati: Demand fair; trend steady; supply adequate; $8@9.

Seattle: Demand and trend steady; supply good; $14 ton, ex-warehouse, truck lots.

Minneapolis: Plain $11; iodized (⅛ lb. KI per ton) $14.45; iodized manganesed $15.90, in 100-lb. bags.

Los Angeles: Demand fair; trend steady; supply ample; meal and flour $10.53 ton, carloads; grits $13.03 ton, carloads.

Chicago: Plain $8.90 ton in 100-lb. bags, delivered.

CHARCOAL

Boston: Demand and supply light; $95, nominal.

San Francisco: Demand steady; supply ample; $54.50.

Los Angeles: Demand slow; trend steady; supply ample; poultry charcoal, oak $3.34, 40-lb. bags in ton lots.

Chicago: Demand quiet; supply limited; poultry charcoal $102 ton in 50-lb. multiwalls.

COCONUT MEAL

Los Angeles: Demand moderate; trend steady; supply adequate; cake, ex-dock, spot $73@74.

Seattle: Demand slow; trend steady; supply limited; $72 ton, ex-dock, 30-day arrival from Philippines.

Portland: Demand slow; supply ample; trend unchanged; $72.

San Francisco: Demand fair; supply ample; solvent $64, expeller $70.

COD LIVER OIL (FORTIFIED)

Boston: Demand slow; supply ample; 600 D, 2,250 A 22¢ lb.; 300 D, 2,250 A 21¢; 300 D, 1,500 A 18½¢.

New York: Trend steady; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 14½@15½¢, 1,500 A 16½@19¢, 2,250 A 18½@21¢, 3,000 A 21½@23¢; 600 ICU, 1,500 A 18@19½¢, 2,250 A 20@22¢, 3,000 A 22@23¢, f.o.b. Massachusetts, New York or Pennsylvania.

CONDENSED FISH SOLUBLES

Los Angeles: Demand good; trend steady; supply adequate; 4¢.

New York: Demand good; trend steady; supply limited; 4@4½¢ lb., f.o.b. eastern shore.

Boston: Demand good; supply adequate; 3¾@4¢ lb.

CORN GERM MEAL

St. Louis: Demand slow; trend steady; supply adequate; $43 ton bulk, $48 ton in burlap sacks, St. Louis.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $49.08, meal $71.08.
Atlanta: Feed $58.69, meal $80.49.
Birmingham: Feed $56.74, meal $78.74.
Boston: Feed $55.61, meal $77.60.
Chicago: Feed $45, meal $67.
Cleveland: Feed $52.31, meal $74.31.
Denver: Feed $54.37, meal $76.37.
Ft. Worth: Feed $52.93, meal $74.93.
Indianapolis: Feed $49.74, meal $71.74.
Kansas City: Feed $45, meal $67.
Louisville: Feed $49.30, meal $71.39.
New Orleans: Feed $54.27, meal $76.27.
New York: Feed $55.20, meal $77.20.
Norfolk: Feed $54.37, meal $76.37.
Philadelphia: Feed $54.78, meal $76.78.
Pittsburgh: Feed $52.93, meal $74.73.
St. Louis: Feed $45, meal $67.

CORN OIL MEAL

Louisville: Demand slow; trend steady; supply normal; $53.10.

Cincinnati: Demand fair; trend steady; supply adequate; $50@50.75.

COTTONSEED OIL MEAL

Philadelphia: Demand dull; supply fair; $70.50.

Ogden: Supply average; 41% $68@73.

Los Angeles: Demand fair; trend steady; supply ample; $63@64 local.

New Orleans: Demand good to fair; trend firm; supply ample; 41% old process $73.50 @74.

Portland: Demand slow; supply ample; trend unchanged; $65, f.o.b. Los Angeles.

Louisville: Demand fair; trend steady; supply ample; old process $62, new process $60.85.

Kansas City: Demand fair but mostly limited to small lots for nearby needs; prices about firmer at $56@56.50, sacked, Memphis, for old process and $54.50@55 for solvent.

Boston: Demand slow; supply good; $71.50.

Ft. Worth: Demand good on cottonseed meal, excellent on hulls; offerings of meal sufficient, hulls very light; carlots, 41% old process $63.50, f.o.b. central Texas mills; solvent 41% low gossypol $63.50@ 64.50, delivered Ft. Worth; pellets $2 additional; cottonseed hulls $34.50@36, delivered Ft. Worth.

Cincinnati: Demand fair; trend steady; supply adequate; solvent $63.50@65, old process $67@68.50.

Chicago: Demand fair; supply increasing; hydraulic $65@65.50; solvent $63@63.50.

Wichita: Demand slow; supply sufficient; 41% $67, solvent $64@65.

San Francisco: Demand good; supply ample; expeller $67, solvent $64.

Atlanta: Demand good; trend strong; supply limited; 41% $60, sacked, immediate.

Buffalo: Demand poor; trend steady to higher; supply fair; $73.25, sacked, Boston.

Omaha: Demand slow; supply ample; 41% solvent $69.

Memphis: Demand fair; trend higher; supply tight; prime 41% protein, old process $56, sacked; new process, 41% solvent $53.50, sacked.

Seattle: Demand fair; trend steady; supply good; $78 ton, delivered, carlots, 41% expeller process.

Denver: Demand good; trend steady; supply ample; 41% protein, 2% fat $68 @69.

D ACTIVATED ANIMAL STEROL, POWDERED

New York: Trend steady; price per lb. in 50- and 100-lb. bags or 100-lb. drums: 1,500 ICU 8@12¢, bagged, 12@13¢ drums; 3,000 ICU 13@17¢ bagged, 17@18¢ drums; f.o.b. or delivered basis Pennsylvania, Delaware or New York.

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢; 3,000 ICU 18¢, warehouse.

Kansas City: Demand fair; trend steady; supply adequate; 10⅛@11¢ lb.

D ACTIVATED PLANT STEROL, POWDERED

Chicago: Demand good; supply adequate; 4,000,000 U.S.P. units per lb., 15¢ lb.; ton lots and less 17¢; 12,000,000 units per lb., 5 tons to a carload 28¢ lb.; ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Tupelo, Miss.: $49.50.
Houston: 19% $69.50.
Wales, Tenn.: $64.10.
Coronet, Fla.: Minimum phosphorus 17%, minimum calcium 24%, maximum fluorine .17% $58 net ton, f.o.b. Coronet in 100-lb. multiwall bags, $55 in bulk.

DICALCIUM PHOSPHATE

Minneapolis: 18.5% phosphorus, 24% calcium granular or fine ground $89.06 ton, delivered; $3 ton less in bulk.

Trenton, Mich.: Minimum phosphorus 21%, maximum fluorine .01% guaranteed $90.30, f.o.b. Trenton, in 100-lb. multiwall bags; minimum phosphorus 18½%, maximum fluorine .01% guaranteed $79.55, f.o.b. Trenton in 100-lb. multiwall bags.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $79.55 ton, f.o.b. Columbia, in 100-lb. multiwall bags. Freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Chicago: Demand fair; supplies adequate; stock food grade, 18.5% phosphorus, 20,000 lb. or more $79.55 net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn., less than 20,000 lb. $89.55; 21% phosphorus, 20,000 lb. or more $90.30, basis Chicago Heights and Nashville, less than 20,000 lb. $100.30; freight equalized with St. Louis, Trenton, Mich., and Godwin, Tenn.; bulk boxcars or hoppers, $3 net ton less than bagged material.

Bonnie, Fla.: Demand improving; supply adequate; minimum phosphorus 18½%, granular $79.55; freight equalized with closest dicalcium phosphate producing point, carload basis.

Denver: Demand fair; trend unchanged; supply ample; $83.50, f.o.b. plant, St. Louis.

Cincinnati: 18% phosphorus $83@89.

Portland: Demand slow; supply ample; trend unchanged; $100.

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DISTILLERS DRIED GRAINS

Louisville: Demand excellent; trend steady; supply light; production up a bit, but demand taking offerings; no change predicted in November prices; bourbon grains, light $56.50, dark $57.50, solubles $77.

Boston: Demand active; supply tight; Canadian light $67, nominal; mediums light $66, nominal.

Cincinnati: Demand poor; trend steady; supply somewhat limited; $60.

Philadelphia: Demand dull; supply light; $69.

San Francisco: Demand fair; supply ample; solubles $80.

Buffalo: Demand good; trend steady to higher; supply poor; $65, bulk, Boston.

DRIED BEET PULP

Ogden: Supply average; $45@50 ton.

Los Angeles: Demand good; trend steady; supply limited; $56.50, paper bags.

New Orleans: Demand fair; trend steady; supply adequate; $57@58.

Ft. Worth: Demand slow; supply moderate; carlots, 50-lb. papers $65@66, delivered Ft. Worth, November-December shipment.

Minneapolis: Market steady at $45, f.o.b. production points.

Buffalo: Demand fair; $65, sacked, Boston.

Boston: Demand slow; supply adequate, $65.

Seattle: Demand good; trend steady; supply sufficient; $52 ton, delivered, carlots.

San Francisco: Demand good; supply fair; $52.

Atlanta: Demand slow; trend steady; supply ample; $71.35, sacked, immediate.

Milwaukee: Demand and supply fair; molasses $57, plain $58.

Cincinnati: Demand fair; trend steady; supply adequate; $60@61.50.

DRIED BUTTERMILK

Chicago: Demand slow; supply fair; medium acid $8.25@8.75, sweet cream $8.75@9.25 cwt., in carlots.

Wichita: Demand slow; supply adequate; $8.25 cwt.

San Francisco: Demand fair; supply ample; 11¢ lb.

Milwaukee: Demand fair; supply fair; $10.75.

Minneapolis: Market firmer at $8.50@9.50 cwt.

Buffalo: Demand fair; trend steady; supply ample; $8.75 cwt.

Ft. Worth: Demand very slow; supply light; local production $12 cwt., f.o.b. Ft. Worth.

New Orleans: Demand slow; trend firmer; supply adequate; $9.50@10.25 cwt.

Louisville: Demand fair; trend steady; supply normal; 9@9½¢ lb.

Boston: Demand and supply fair; 11¢ lb.

Los Angeles: Demand fair; trend steady; supply ample; 11¢.

Ogden: Supply normal; $7.25, 100-lb. bag.

DRIED CITRUS PULP

Los Angeles: Demand active; trend steady; supply light; f.o.b. southern California producers' plants: orange $50.50 sacked, $45.50 bulk.

New Orleans: Demand fair; trend firm; supply adequate; $43@45, Florida origin.

Boston: Demand poor; supply adequate; $56.42.

Atlanta: Demand fair; supplies ample; pulp $43, meal $38, sacked.

San Francisco: Demand good; supply fair; meal $55.

Buffalo: Demand and supply fair; trend steady; $36, sacked, f.o.b. Florida points.

DRIED SKIM MILK

Chicago: Demand light; supply adequate; $10.25@10.75 cwt. in carlots.

Cincinnati: Demand fair; trend steady; supply adequate; 11@12¢.

San Francisco: Demand and supply fair; 12½¢ lb.

Milwaukee: Demand and supply fair; $11.75.

Minneapolis: Market unchanged at $10.50@11 cwt.

Buffalo: Demand fair; trend steady; supply ample; $11 cwt.

New Orleans: Demand light; trend steady to firm; supply adequate; $11@11.75 cwt.

Portland: Demand slow; supply ample; trend unchanged; 12½¢.

Boston: Demand poor; supply fair; 11@12¢ lb.

Louisville: Demand slow; trend steady; supply normal; 11@12¢ lb.

Philadelphia: Demand and supply fair; $11.50.

Los Angeles: Demand fair; trend steady; supply ample; $13.75.

DRIED WHEY

Los Angeles: Demand fair; trend steady; supply ample; plants $5.55; $6.10, f.o.b. Los Angeles warehouse.

Ogden: Supply normal; $6.90, 100-lb. bag.

Philadelphia: Demand and supply fair; $6 cwt.

Louisville: Demand fair; trend steady; supply ample; 6@6½¢ lb.

Kansas City: Demand fair; trend firm; supply moderate; straight grade $6.25 cwt., delivered or $5.25 f.o.b. plant, plus freight to destination whichever is lesser; partially delactosed $6.40.

Ft. Worth: Demand fair; supply adequate; carlots, standard $6 cwt., sacked, delivered Ft. Worth or any Texas point or in ton lots f.o.b. warehouse, Ft. Worth.

Portland: Demand slow; supply ample; trend unchanged; $4.95.

New Orleans: Demand poor; trend steady to firmer; supply adequate; $5.20@6 cwt.

Boston: Demand poor; supply plentiful; $5.60 cwt.

Buffalo: Demand and supply fair; trend steady; $6 cwt., delivered.

San Francisco: Demand steady; supply good; $5.50 cwt.

Cincinnati: Demand fair; trend steady; supply adequate; $5.25 cwt.

Chicago: Demand steady; supply adequate; $5.20 cwt. in carlots.

Denver: Demand fair; trend unchanged; supply ample; $7 cwt., $6 carlots.

Seattle: Demand slow; trend steady; supply good; $6.50 cwt., ex-warehouse, l.c.l.

Minneapolis: Market firm at $5@5.50 cwt.

FEATHER MEAL (HYDROLYZED)

Boston: Demand strong; supply adequate; $80, f.o.b. Maine points.

FISH MEAL

Louisville: Demand slow; trend steady; supply ample; $150@155 ton.

Portland: Demand slow; supply ample; trend unchanged; $2, f.o.b. Vancouver; $2.25, f.o.b. California.

Ft. Worth: Demand slow; supply sufficient; 60% protein menhaden meal $139.50; menhaden scrap $134.50, f.o.b. Fort Arthur; 65% protein Peruvian fish meal $142.50, f.o.b. Houston; 63% South African pilchard fullmeal with 10% dry solubles $145, f.o.b. Houston; Norwegian fullmeal with solubles $164.50, f.o.b. Houston, immediate.

New Orleans: Demand fair to good; trend steady; supply adequate and improving; menhaden 60% $138, burlaps, immediate; November delivery $140 burlaps, 60% scrap $134.

Seattle: Demand fair; trend steady; supply good; $2 a unit protein, ex-dock, Seattle.

Minneapolis: Market unchanged at $1.95@2 a unit of protein, West Coast for 70% and $145, delivered, for 60% meal.

Denver: Demand spotty; supply ample; trend unchanged; $2 a unit, f.o.b. Seattle.

Boston: Demand good; supply limited; $137@138.

Cincinnati: Demand fair; trend steady; supply adequate; $150@155.

Atlanta: Demand fair; trend strong; supply limited; 60% $149, sacked, immediate.

Chicago: Demand fair to good; supply short; eastern menhaden fish meal, 60% protein $136@139; western blended, 60% protein $129; Gulf $138@140; Northwest herring-salmon blend $129@130.50; Canadian herring, 73% protein $2 a unit of protein, all f.o.b. producing points; 60% blended $147@150, delivered Midwest points.

Milwaukee: Demand and supply fair; 60% $161.

San Francisco: Demand fair; supply ample; $2.15 a unit of protein.

Buffalo: Demand good; trend higher; supply limited; 60% protein menhaden $148 ton bulk, $152 sacked.

Los Angeles: Demand fair; trend steady; supply ample; $2@2.05 a unit of protein.

Ogden: Supply average; $2.20 a unit, f.o.b. Coast; 65% $171@173.

HAY

Ft. Worth: Demand fair; light offerings; nominal, carlots, baled, No. 1 alfalfa $48@50, No. 2 $46@48; Texas and Oklahoma origin, prairie No. 2 $42@44; Johnson grass No. 2 $40@52, delivered TCF, full freight rate.

Portland: Demand slow; supply ample; trend unchanged; $36.

Louisville: Demand dull; trend steady; supply excellent; fancy alfalfa $30@35; alfalfa, timothy, timothy and clover mixed or clover No. 1 $20@22, No. 2 $18@20; straw, very scarce $20 ton.

New Orleans: Demand fair; supply adequate; trend strong; baled alfalfa No. 1 $64@65; Kansas prairie $46@47; No. 1 timothy $50@52; timothy and clover mixed $60@62.

Boston: Demand slow; supply ample; No. 2 timothy $34@36.

Wichita: Demand slow; supply very light; prairie $30, alfalfa $35.

St. Louis: Demand fair; trend steady; supply ample; alfalfa, first and second cutting $12@14 ton; alfalfa, third cutting, green $16 ton; prairie $27@28 ton; clover mixed $27@28 ton.

Los Angeles: Demand good; trend steady; supply limited on No. 1 and No. 2 leafy; U.S. No. 1 $28@30; U.S. No. 2, leafy $25@27; U.S. No. 2, green $25@26; U.S. No. 2 $22.50@23.50.

Ogden: Supply average; $1.10 bale; $21@24 ton in the barn.

Philadelphia: Demand dull; supply fair; $28.

New York: Demand and supply good; trend steady; No. 1 timothy $45; No. 2 timothy $35@37; No. 3 timothy $28@33.

Denver: Demand slow; trend steady; supply ample; baled alfalfa $30@32; mountain hay $38.

Seattle: Demand fair; trend steady; supply good; U.S. No. 2 green $35 ton, delivered truck lots.

HOMINY FEED

Kansas City: Demand very good, with cattle feeder demand coming into market; supplies moderate; prices firmer; yellow $49.50@50, white $48.50@49, sacked, Kansas City.

Seattle: Demand slow; trend steady; supply good; $63 ton, delivered, carlots, sacked.

Memphis: Demand nil; trend steady; supply ample; white $54, yellow $54.50.

New Orleans: Demand fair; trend easier; supply light; $54.50@56.50.

Boston: Demand slow; supply good; $57.50.

Louisville: Demand slow; trend weak; supply light; $50@51.

Chicago: Demand poor; supply plentiful; $46@46.50.

Cincinnati: Demand slow; trend lower; supply adequate; $49.50.

Milwaukee: Demand fair; supply tight; $50, sacked, Milwaukee.

Buffalo: Demand and supply fair; trend steady; $53.50, bulk, Boston.

LINSEED OIL MEAL

Minneapolis: Market firmed up about $2 from recent low point, with good tonnage trade this week as buyers apparently felt bottom had been reached; crushers report improved directions. Quotations: 34% $51.50@52, bulk, Minneapolis; 22% flaxseed screenings oil feed $32, bulk, Minneapolis.

Omaha: Demand slow; supply ample; 34% expeller $76.50, pellets $79; 36% solvent $64, pellets $66.50.

Philadelphia: Demand dull; supply fair; $72.

Los Angeles: Demand moderate to good; trend steady; supply scarce; $72@73.

Seattle: Demand slow; trend firm; supply limited; $82 ton, delivered, carlots, 34% protein.

Louisville: Demand fair; trend steady; supply ample; old process $80.10; new process $67.10.

Denver: Demand slow; supply ample; trend unchanged; $73.

Boston: Demand slow; supply light; $76, nominal.

Ft. Worth: Demand fair; supply adequate; carlots, 34% or better, October-January $73.05, delivered Ft. Worth; pellets $2.50 premium.

Portland: Demand slow; supply ample; trend unchanged; $66, f.o.b. Los Angeles.

Milwaukee: Demand fair; supply good; old process $72.75, new process $60.25.

Kansas City: Demand light in this area; trend steady; supply adequate; new process $50@51, bulk, Minneapolis.

New Orleans: Demand good; trend easier; supply light; 32% or better $72.50@74.

Cincinnati: Demand fair; trend steady; supply adequate; new process $65.50@66; old process $75.50@76.

Wichita: Demand slow; supply sufficient; 34% $69.

San Francisco: Demand and supply fair; $77.

Chicago: Demand slow; supply adequate; solvent $60@60.50; expeller $72.50@73.

MALT SPROUTS

New Orleans: Demand good; trend higher; supply ample; $54.50@57.

Milwaukee: Demand good; supply fair; oddweights $47, evenweights $49.

Chicago: Demand slow; supply adequate; No. 1 $47@47.50.

Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $52.50.

St. Louis: Demand good; trend firm; supply ample; No. 1 bulk $42 ton, No. 1 sacked $47 ton, No. 2 bulk $40 ton.

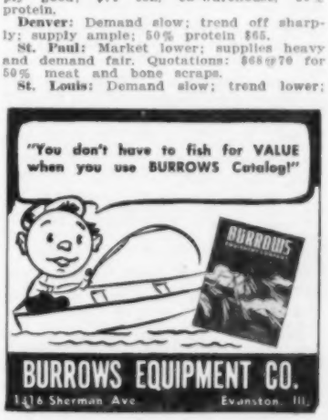
MEAT SCRAPS

Seattle: Demand fair; trend steady; supply good; $74 ton, ex-warehouse, 50% protein.

Denver: Demand slow; trend off sharply; supply ample; 50% protein $65.

St. Paul: Market lower; supplies heavy and demand fair. Quotations: $68@70 for 50% meat and bone scraps.

St. Louis: Demand slow; trend lower;



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Kansas City, St. Louis, Chicago, Buffalo, Omaha, Toledo, Columbus, Fort Worth, Portland, Galveston, Enid, Minneapolis, Norfolk, Nashville, Louisville, Memphis, Houston

supply ample; 50% $75@78 ton bulk, $80@82 ton in paper sacks, $79@81 ton in burlap sacks.

Chicago: Demand slow; supply adequate; 50% protein $72@77.50; 55% $82.

Cincinnati: Demand fair; trend steady; supply good; 50% $74.50 ton, sacked, f.o.b. Cincinnati.

Wichita: Demand fair; supply ample; 50% $85, f.o.b. plant; 55%, no quotations, no offerings.

San Francisco: Demand fair; supply ample; $1.60 a unit of protein.

Buffalo: Demand just fair; trend steady; supply ample; 50% meat scraps $70 ton bulk, $73 sacked.

New Orleans: Demand spotty; supply ample; trend easier; 50% $82.50@85.

Portland: Demand slow; supply ample; trend unchanged; $1.50 a unit.

Louisville: Demand fair; trend steady; supply normal; $90@95 ton.

Boston: Demand cautious; supply plentiful; $1.10 a protein unit; converted 50% $67.50.

Ft. Worth: Demand fair; supply ample; meat and bone, 50% $72, f.o.b. or delivered Ft. Worth.

Kansas City: Demand fair; trend easier; supply ample with fairly good slaughter runs; 50% meat and bone scrap $73@80, sacked, Kansas City.

Los Angeles: Demand fair; trend steady; supply ample; $1.75 a unit of protein.

New York: Demand fair; trend lower; supply good; 50% $70, 55% $76, bulk; 50% $73, 55% $78, sacked.

Ogden: Demand weaker; supply average; $32.50 ton in 100-lb. bags.

MILLET

St. Louis: Demand fair; trend higher; supply scarce; recleaned Early Fortune $3.90 cwt., sacked; recleaned White Proso $4 cwt., sacked.

MILLFEED

Minneapolis: Trading picked up this week, with considerable demand for bulk middlings as well as sacked material. Prices were $1@1.50 higher. Quotations: bran $37.50@38.50, standard midds. $38.50@39.50, flour midds. $48@49, red dog $52@57.

Kansas City: Demand fair to good, with mixed car and mill door truck demand at interior mills in drouth area keeping offerings down; fair interest from mixers particularly for bulk; production levels continue seasonally high; prices firmer on shorts than bran; bran $36.75@37.50, shorts $41.75@42.50, sacked, Kansas City; middlings $36@37, bulk.

Ft. Worth: Demand fair; supply moderate; carlots, burlap, prompt, wheat $45@46; gray shorts $50.50@51.50, delivered Texas common points; $1 higher on bran and $2.50 higher on shorts compared with previous week.

Wichita: Demand good; offerings about offset demand; basis Kansas City, Oct. 23: bran $37.25@37.75, shorts $42@42.50; bran advanced 75¢ ton and shorts $2 ton, compared with the previous week.

Omaha: Demand fair; supply limited; bran $37.50, shorts $42.50; standard midds., bulk $38.

Denver: Demand good; trend stronger; supply limited; bran $40.25; shorts $45.50; mill run $43.

Chicago: Millfeed prices moved irregularly within small confines during the week ending Oct. 24. Greatest demand appeared to be from the Southwest, where the drouth situation increased requirements. In this immediate area supplies and demand appear to be about in balance. Bran $41.50@42, standard midds. $42@42.50, flour midds. $54@55, red dog $56.50@58.

St. Louis: Demand good; trend steady; supplies adequate; bran $41.50@42, shorts $46.50@47.00; St. Louis switching limits.

Cincinnati: Demand fair; trend steady to easy; supply adequate; bran $45.50@47; middlings $47.50@49.

Louisville: Demand fair; trend firmer; supply normal; bran $47.25, mixed feed $50, shorts $51.75, standard midds. $49.75.

Buffalo: Middlings sales were quite active and prices were higher. Bran ended unchanged after losing a 50¢ rise; middlings rose $2 and heavy feeds were tight and unchanged to off $1. Quotations Oct. 24: bran $43.50@44, standard midds. $47, flour midds. $60@63, red dog $60@63.

New York: Demand and supply good; trend steady; bran $51@51.50, standard midds. $52.50@53.

Boston: Demand active; supply adequate; bran $52, middlings $54.

Philadelphia: Demand spotty; supply ample; bran $51, standard midds. $51.50, red dog $69.

New Orleans: Demand fair; trend firm; supply light; bran $46@47.25, shorts $51@52.50.

Memphis: Demand fair; trend higher; supply ample; wheat bran $44.50, gray shorts $49.50, standard midds. $47.

Seattle: Demand fair; trend firm; supply sufficient; $41 ton, delivered, common transit points, carlots.

Portland: Demand good; trend higher; supply ample; $40.

Ogden: Supply average; to Utah and Idaho: red bran and mill run $41, middlings $46; to Denver: red bran and mill run $48, middlings $53; to California: red bran and mill run $48.50, middlings $53.50, f.o.b. San Francisco and Los Angeles.

San Francisco: Demand fair; supply ample; $49.50; red bran $54.

Los Angeles: Demand good; trend steady; supply ample; mill run, Utah-Idaho billing, sacked $50.50@51; red bran, delivered CCP, sacked $53.50@54.

MINERAL FEED

Seattle: Demand fair; trend steady; supply good; competitive brands $44 ton, high phosphorus mixtures $65 ton, both ex-warehouse.

Denver: Demand fair; trend unchanged; supply ample; 7.5% phenothiazine, 45-lb. block $4.50; 8.2% phosphorus, 50-lb. block $3.50; 7.5% phenothiazine, 8.2% phosphorus, 45-lb. block $5.25; 6% phosphorus, 50-lb. block $2.65.

Sioux City: 50-lb. mineral blocks, 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.

Ogden: Supply average; $106.50 ton in 50-lb. blocks; $96.50 ton, granular, 50-lb. bags.

Ft. Worth: Demand fair; supply ample; all-purpose granules $88, block $93, mineral phosphorus 6% granules $104, block $109; cattle sheep mineral 7% phosphorus granules $97, block $102; hog mineral phosphorus 3½% granules $87, phosphorus 2% $76 (all in 50-lb. paper bags).

Portland: Demand slow; supply ample; trend unchanged; $42.

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

Wichita: Demand good; supply sufficient; all-purpose with iodine, 50-lb. blocks $95, 100-lb. bags $90, f.o.b. plant.

MOLASSES

Milwaukee: Demand good; supply fair; blackstrap 23¢ gal., New Orleans.

San Francisco: Demand and supply good; $30 ton, f.o.b. cars, Richmond, Cal.

Denver: Demand good; trend steady; supply limited; 23¢, f.o.b. New Orleans.

Seattle: Demand steady; trend firm; supply sufficient; $32 ton, f.o.b. Seattle, tank car lots.

Memphis: Demand poor; trend steady; none available; blackstrap 24¢ gal (nominal), tank car, f.o.b. New Orleans.

Minneapolis: Market picture somewhat clouded, with few new offerings of bookings being made and delivery delays reported; however, some buyers indicated resistance to current quotations and some spot offerings below the 25¢ gal., f.o.b. New Orleans, quoted most frequently.

Los Angeles: Demand good; trend steady; supply ample; $30, f.o.b. tank cars; $30.25, f.o.b. tank trucks, both Los Angeles harbor.

Cincinnati: Demand fair; trend steady to easy; supply somewhat limited; 23¢ gal., New Orleans.

Atlanta: Citrus molasses—demand good; supply limited; price strong; $20 ton, bulk, f.o.b. Florida producing points.

Buffalo: Demand good; trend steady; supply fair; 24½¢ gal., f.o.b. Albany.

Kansas City: Demand slow with some resistance from buyers but nearby cars moving well; offerings light with some sellers taking nothing new but shipping on old contracts; prices continue to rise; quotations this week range from 23@25¢, with lower end of range applying only to contracts; some sales made at 24¢.

New Orleans: Trend unsettled; 23¢ gal. in tank cars, f.o.b. New Orleans.

Louisville: Demand slow; trend steady; supply normal; 23¢ gal., tank car lots, Gulf ports.

Ft. Worth: Demand good; supply very scarce; blackstrap 22¢ gal., f.o.b. Houston; delivered Ft. Worth trucks $45.32; seller's market price on date of shipment.

Boston: Demand seasonal; supply ample; 24½¢ gal. in tank cars.

New York: Demand good; trend upward; supply limited; blackstrap 24¢ gal., tank cars, tank wagons, f.o.b. New York.

NIACIN

New York: Trend steady; $8 kilo, 50-kilo lots; $8.10 kilo, 10-kilo lots; $8.20 kilo, 5- and 2½-kilo lots; $8.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Philadelphia: Demand dull; supply fair to light; pulverized white oats $50.50; Canadian oat feed $26, domestic $23.

Minneapolis: The market is stronger, reflecting higher oats costs; demand steady on most items and easier on reground. Quotations: feeding rolled oats $87@91, standard pulverized $46@49, feeding oatmeal $72@76.50; crimped oats $64; reground oat feed $19.

Memphis: Demand poor; trend higher; supply limited; 3¼% protein, reground oat feed $24.50.

Seattle: Demand fair; trend firm; supply good; whole oats $67 ton, ground oats $68 ton, rolled oats $71 ton, all ex-warehouse, l.c.l.

Los Angeles: Demand fair; trend steady; supply ample; white pulverized $70.

Portland: Demand slow; supply ample; trend unchanged; rolled $65, ground $62, cleaned $66.

Louisville: Demand fair; trend stronger; supply ample; reground $26.25; rolled $91.25; feeding $83.25; pulverized white $50.75; crimped white $73.75.

New Orleans: Demand fair; trend steady; supply light; pulverized white oats $54@56, mixed feed oats $44@46.

Ft. Worth: Demand fair; supply scarce for immediate delivery; oat millfeed $52.40, reground oat millfeed $32.40.

Boston: Demand and steady; supply adequate; white pulverized, average $50.75; fancy $57.65; reground oat feed $19.

Chicago: Demand fair; supply adequate; reground oat feed $19; fine ground feeding oatmeal $76@78; feeding rolled oats $86@88.

St. Louis: Demand fair; trend steady; supply ample; reground oat feed $19.50 in 100-lb. burlap sacks; pulverized white oats $45 ton, choice $46.

Cincinnati: Demand fair; trend steady; supply adequate; reground oats $22; pulverized white oats $49.50@51.30; rolled oats $92@93.

OYSTER SHELL

Seattle: Demand slow; trend steady; supply good; western shell $28 ton, eastern shell $32 ton, both ex-warehouse.

San Francisco: Demand fair; supply ample; local $15, eastern $26.

Cincinnati: Demand fair; trend steady; supply adequate; $21.75.

New Orleans: Demand fair; trend steady; supply adequate; $15@17, local origin.

Portland: Demand good; supply ample; trend unchanged; western $30, eastern $36; granite grits $26.50, crystal grits $26.50.

Louisville: Demand good; trend steady; supply normal; in 80-lb. bags $21.34, in 50's $21.54, in 25's $21.84.

Boston: Demand good; supply plentiful; $23.21 in paper.

Los Angeles: Demand and trend steady; supply ample; local $18.25, eastern $25.

PEANUT OIL MEAL

Milwaukee: Demand and supply fair; 26% $45.

PEAT MOSS

Seattle: Demand and trend steady; supply good; $2.90 bale, delivered, carlots, horticultural or poultry.

Los Angeles: Demand and trend steady; supply ample; Canadian, 6.1 cu. ft. bales $3.45, in 300-bale lots, delivered California main line points.

Philadelphia: Demand dull; supply fair; $2.95, f.o.b. pier.

San Francisco: Demand fair; supply ample; $3.35 bale.

Chicago: Demand good; supply short; $3.75@3.85, standard 7½ cu. ft. bale.

Boston: Demand and supply steady; $3@3.10 bale.

POTASSIUM IODIDE, U.S.P.

New York: Trend steady; granular or crystals $1.50½ lb. in 250-lb. drums, $1.92 lb. in 100-lb. drums, $1.95 lb. in 25-lb. drums; 90% KI in calcium stearate or carbonate mixtures, $1.81 lb. in 250-lb. drums or 100-lb. lots, $1.83 lb. in 100-lb. drums, $1.96 lb. in 25-lb. drums; f.o.b. New York, New Jersey or Pennsylvania; freight allowed to destination on 100-lb. drums or larger packings.

St. Louis: Demand fair; trend steady; supply ample; 100% pure potassium, U.S.P., 250-lb. average in drums $1.90, 100-lb. lots in fiber drums $1.92; potassium iodide calcium stearate mixture, 225-lb. lots in leverpak drums $1.81, 100 lb. in fiber drums $1.85.

RIBOFLAVIN

New York: Trend steady; feed grade (in feed supplements) 4½¢ gram in 3.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

RICE BY-PRODUCTS

Atlanta: Demand fair; trend steady; supply limited; bran $45, sacked, immediate.

San Francisco: Demand fair; supply ample; bran $44, polish $48.

Ft. Worth: Demand slow; supply moderate; carlots, rice bran $33@34, prompt shipment, f.o.b. south Texas rice mills; hulls $4@5, f.o.b. mills.

New Orleans: Demand fair; trend steady; supply limited; bran $45@47; no quotes on hulls.

Los Angeles: Demand fair; trend steady; supply ample; bran $48.61.

SCREENINGS

Cincinnati: Demand fair; trend steady; supply adequate; Canadian $21.50; barley $18@22.

Chicago: Demand moderate; supply plentiful; ground grain screenings $26; Canadian bulk $15.50.

Ft. Worth: Demand good; supply limited for immediate shipment; 12% protein ground $37.50, sacked, delivered Ft. Worth.

New Orleans: Demand fair; trend firmer; supply ample; 3/64 in. grind $36@38.

Buffalo: Demand and supply fair; trend steady to higher; ground, sacked $25.50, New York, L&R; unground, bulk $19.50, New York.

Minneapolis: Demand for lighter material remains good, but heavy screenings are dragging. Quotations: country run $12@20, lights $6@12, mediums $12@25, heavies $25@35; Canadian $13, bulk, Duluth; Canadian ground $23, sacked; flax screenings $15@16.

Denver: Demand fair; trend steady; supply ample; $34, ground grain.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Atlanta: $18.85@19.10.
Buffalo: $23.65@23.90.
Chicago: $23.10@23.35.
Cincinnati: $21.80@22.
Des Moines: $23.60@23.85.
Kansas City: $23.20@23.45.
Memphis: $20.50@20.70.
Minneapolis: $24.25@25.55.
Philadelphia: $22.65@22.90.
St. Louis: $22.50@22.75.
Tampa: $18@18.20.
Toronto: $27.50@27.80.

SORGHUMS

Ft. Worth: Demand good; offerings light; carlots, bulk, No. 2 yellow milo $2.43@2.48, delivered Texas common points.

Cincinnati: Demand fair; trend steady; supply adequate; $2.80@2.85.

Los Angeles: Demand active; supply ample; trend strong; No. 2 milo, delivered CCP, prompt $3.07½@3.10.

SOYBEAN MILLFEED

Ft. Worth: Demand excellent; supply very limited; most mills sold through December; nominal $39, prompt, delivered Ft. Worth.

SOYBEAN OIL MEAL

Minneapolis: Prices are about unchanged from a week earlier at $40, bulk, Decatur.

Philadelphia: Demand spotty; supply ample; $43.50, bulk, Decatur.

Memphis: Demand fair; trend steady; supply ample; prime 44% solvent $54, sacked, f.o.b. Memphis.

Omaha: Demand slow; supply ample; 44% solvent $60; 41% expeller $65.

Seattle: Demand and trend steady; supply ample; $75.50 ton, delivered, carlots, sacked.

Denver: Demand good; trend stronger; supply limited; $69, November delivery; no quotations for immediate.

Ogden: Supply normal; $85@90.

Los Angeles: Demand good; trend steady; supply limited; $74.94, delivered CCP.

Ft. Worth: Demand improved; supply sufficient; carlots, 44% $67@68, immediate, also October - November - December; truck loads $62@63, delivered Ft. Worth.

Louisville: Demand fair; trend stronger; supply normal; $57.10 ton.

New Orleans: Demand fair; trend higher; supply ample; 49% $66.50@67.

Portland: Demand slow; trend higher; supply ample; October $41; January forward $43.

Kansas City: Demand fair but limited to nearby needs; offerings ample but not pressing; prices steady to firmer at $44.50@45, bulk, Decatur, for meal for Kansas City and western shipment; forward offerings at same price through December.

Boston: Demand spotty; supply ample; $44.50, f.o.b. Decatur.

Milwaukee: Demand good; supply fair; $45, bulk, Decatur.

Atlanta: Demand fair; trend steady; supply ample; 44% $62.50, sacked, immediate.

San Francisco: Demand fair; supply ample; $75.25.

Decatur: Demand fair to good; supply plentiful; 44% bulk, unrestricted $45.50@46.

Wichita: Demand good; supply ample; 44% $63, 50% $71, f.o.b. Wichita.

Cincinnati: Demand fair; trend steady; supply adequate; $45.50@46, bulk, Decatur.

Chicago: The market for soybean oil meal was somewhat stronger during the week ending Oct. 24, with prices advancing around $1 ton. Demand held fairly steady, but supplies tightened for nearby shipment. Some trading interest in November-December and January-March developed. Quotations: 44% soybean oil meal $55@55.50.

SUNFLOWER SEED

St. Louis: Demand fair; trend steady; supply ample; large black $16 cwt., medium black $13.50 cwt., medium gray $13 cwt., small black and gray $10.50 cwt.

TANKAGE

St. Paul: Market easier at $70 for 60% digester.

Omaha: Demand slow; supply ample; $82.50.

Wichita: Demand fair; supply ample; 60% $55, f.o.b. plant.

Cincinnati: Demand good; trend steady; supply fair; 60% digester $75@80.

Chicago: Demand slow; supply adequate; 60% protein $75@77.50.

Louisville: Demand reasonable; trend steady; supply normal; 60% $90@95 ton, asked.

Kansas City: Demand fair; trend easier; supply ample but moving fairly well; 60% digester $75@85, sacked.

Ft. Worth: Demand and supply light; 60% digester $78, f.o.b. Ft. Worth.

Los Angeles: Demand fair; trend steady; supply ample; $1.55 a unit of protein.

St. Louis: Demand fair; trend steady; supply ample; 60% $84@86 ton bulk, $89@91 ton in paper sacks, $88@90 ton in burlap sacks.

WHEAT GERM MEAL

Chicago: Market unchanged at $64.

New Orleans: Demand fair; trend steady; supply sufficient; $72@74.

Buffalo: Demand and supply fair; trend steady; commercial grade $71, sacked, f.o.b. Buffalo.

Helmut W. Lauber of Quaker Oats Dies

CHICAGO — Helmut W. Lauber, long time member of the Quaker Oats Company's purchasing department, died in Chicago recently.

Mr. Lauber had been a Quaker Oats employee for 18 years. He headed the bags, glass containers, lumber and packaged premiums division of the purchasing department.

Mr. Lauber lived at 1354 W. Jarvis, Chicago. Surviving are his widow, Lise, and two daughters, Karen 12, and Joanne, 7.

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MICHIGAN

(Continued from page 4)

extremely short notice to fill a place on the program which had been assigned to Alvin E. Oliver, executive vice president, Grain & Feed Dealers National Assn., Washington, who was unable to attend because of illness.

Charles Force, Little Brothers, Kalamazoo, who was recently elected vice president of the Grain & Feed Dealers National Assn., spoke briefly on the topic "Our National Scene," which had been assigned to Mr. Oliver. He told of the association's efforts to help get the government out of the grain business, its work in drouth area assistance, control of "pink" wheat abuses and several other activities of the national group.

E. W. Schafer, Wayne Feed Supply Co., Fort Wayne, Ind., described in detail the experiences of his company in operating retail feed stores. This talk, previously given at the summer meeting of the Indiana Grain & Feed Dealers Assn. at Purdue University, was covered in a two-article series in Feedstuffs, Aug. 4 and Aug. 11 issues.

Labor efficiency in feed mills was discussed by W. S. Farris, extension economist in marketing, Purdue University. This was an enlargement of a similar discussion presented by Mr. Farris at the Indiana meeting and covered in Feedstuffs of June 23.

Press Representatives' Panel

"Feedland—Today and Tomorrow" was the subject of a panel discussion by representatives of the trade press with Mr. Krusoe as moderator. Dean M. Clark, Grain & Feed Journals, Chicago, talked on efficient mill layouts and equipment placement and how they pay off in better employee service.

William Flemming, Grain & Feed Review, Minneapolis, explained the importance of feed men making personal calls on farmer customers and of letting customers know when mill improvements and new equipment have been installed to better serve them.

Bruce Smith, Feed Bag, Milwaukee, spoke on the need for better training of feed store personnel so they can better serve customers when the boss is away. He cited instances of where business was lost to competitors only because employees were (1) poorly informed and (2) personally indifferent. Employees should be permitted to attend business sessions of conventions instead of just the banquet and entertainment features, he said.

Don E. Rogers, Feedstuffs, Chicago, spoke on some of the changes now taking place in feed manufacturing and distribution. Larger centralized plants are finding increased competition from growing numbers of small local mixers. These, in turn, are running up against competition from mobile mixing units, bulk routes and on-the-farm mixing mills.

The trend seems more and more toward taking the feed business to the farmer, instead of waiting for the farmer to come to the store or mixer. Larger companies are building smaller sized mills in strategic areas to take advantage of local grains and to get nearer their customers. Many small independent and co-op mixing plants have been constructed to serve local areas, and retail stores without mixing facilities are finding mobile feed mills an advantage in getting business that otherwise would not come to their stores.

Grain Trade Problems

Ralph H. Brown, Cleveland Grain Co., Indianapolis, and chairman of the national committee on uniform grain grades, spoke on "The Country Elevator and Uncle Sam." He told of the government interference in the grain elevator business for the past quarter century, with U.S. now the biggest competitor of private grain dealers.

MICHIGAN OFFICERS—Following the vote to incorporate the Michigan Feed & Grain Assn. and change the name to the Michigan Feed & Grain Dealers Assn., the new board of directors elected Lawrence Smith (left), Smith Brothers, Lake Odessa, Mich., as president for the ensuing year. The election took place at the annual feed nutrition conference held at Kellogg Center, Michigan State University, East Lansing, Oct. 18-19. Robert McConkey, Durand (Mich.) Milling Co. (right), was elected vice president, and John Krusoe (center), Valley City Milling Co., Portland, Mich., was reelected secretary-treasurer.

Mr. Brown traced the history of how the government has gradually become involved in grain buying, marketing and warehousing. He said that total Commodity Credit Corp.-owned storage is nearly one billion bushels, an all-time high.

Until the present burdensome farm commodity surpluses are liquidated, many heartaches still lie ahead for the free enterpriser in the grain business, Mr. Brown said. However, he said the trend toward government activity in the grain trade has been stemmed.

"Private exporters have been given the task of exporting free wheat this year. The local corn selling program freed bin-site non-storable corn at the country elevator level. Commission merchants handle some of the CCC carlots off-grade consignments to certain terminal markets," Mr. Brown stated.

E. O. Baron, Toledo Port Authority, told of the plans and construction under way at Toledo in preparation for the opening of the St. Lawrence seaway.

Two Clinics Staged

The afternoon of the second day was devoted to two clinics—one on country elevator problems and one on livestock and poultry nutrition. In the elevator clinic, under the chairmanship of Mr. Bohnsack, Walter Hummell, management consultant, Whitehall, Mich., spoke on efficient bookkeeping for a country elevator.

"Improving Retail Credit Methods" was the subject of a panel moderated by George Greenleaf, coordinator of elevator training, short course department, Michigan State University. Panel members were Stanley Sherman, Charles Wolohan, Inc., Saginaw; Ernest Clabuesch, chairman, agricultural committee, Michigan Bankers Assn.; and Andrew Lampen, president, Production Credit Corp., St. Paul, Minn.

"Feed Nutrition of Tomorrow" was discussed by a panel of leading nutritionists of Michigan State University, moderated by Dr. Philip Schaible, poultry department. Panel members and their subjects were: Dr. Charles A. Lassiter, associate professor, dairying, "Successful Calf Feeding Program"; Charles Pope, technician in poultry feeding, "New Wrinkles in Poultry Feeding"; Dr. J. A. Hoefer, professor in animal husbandry, "More Pork Through Nutrition."

Scores Feed Waste

Dr. Hoefer said that the basic objective of the swine industry is to produce a high quality product at an economical price to the consumer and at a fair profit to the producer. Since feed costs represent approximately 75-80% of the cost of producing pork it follows that in the area of feeding there should be great potential for improving efficiency of swine production.

Dr. Hoefer stated that much feed is wasted through:

Death losses, poorly balanced rations, parasites, disease, small litters —large overhead, over-feeding (market hogs too heavy, too fat, breeding animals—poor reproductive efficiency, no return from feed), poor environmental conditions, poorly designed self-feeders and improper methods, wrong kind of hogs and lack of information.

In continuing, Dr. Hoefer said: "Although the problems are manifold and diverse the feed industry can contribute much toward the solution of the above problems. All of them are related in a sense to feeding since the primary function of the pig is to convert feed to human food. In addition to handling and selling feed the industry sells a program of service and recommendations. The opportunity to give advice concerning management and feeding practices goes with the sale of every bag of feed. Good feed formulation plus sound recommendations means more efficient production of the right kind of pork.

"The average market hog today represents approximately 1,000 lb. of feed—it is not an impossible goal to expect that not too many years hence a market hog will be produced on 700 lb. of feed (including the breeding herd). This 30% improvement will be brought about by better balanced rations, more efficient utilization of nutrients, more complete elimination and control of parasites and disease, and general improvement of management and breeding methods," Dr. Hoefer claimed.

A summary of dairy nutrition research work at Michigan State College was presented by Dr. Lassiter. He said that feed costs of raising Holstein calves to 16 weeks of age by various systems were $50.50 for whole milk-farm grain; $30.30 for milk replacer-starter-grain; and $30.62 for limited milk-starter-grain.

Mr. Pope, in discussing "New Wrinkles in Poultry Feeding," said:

"The addition of fat in poultry feed up to 3½% as well as increasing the protein levels allows one to formulate feeds that will give the farmer feed conversion values that were thought impossible 15 years ago.

"In addition, the use of fat and molasses cuts down on the problem encountered in the manufacture of poultry feeds, namely:

"1. Reduces dustiness of feed. 2. Improves physical appearance. 3. Stimulates consumption. 4. Greatly assists in pelleting feeds. 5. Allows the poultry to produce a pound of feed or dozen eggs with less feed cost."

At the evening banquet, the following past presidents of the Michigan Feed & Grain Assn. were awarded gold-lettered plaques honoring their efforts in behalf of the association: W. C. Doyle, 1933-34 (accepted by his son, Michael Doyle); Fred Zinn, 1935-36 (accepted by Don Zinn); A. G. Lohman, 1937-40; Fred N. Rowe, 1941-44; Ward Bronson, 1945; Charles S. Force, 1946-58; Warren Kahlbaum, 1949-50; Doyle Bauserman, 1951-52; Charles McCalla, 1953-54; and Fred N. Rowe, Jr., 1955-56.

COTTON PRODUCERS

(Continued from page 1)

building will rise from the foundation slab to a height of 112 ft. in approximately 10 days after construction is under way. Complete construction will take about a year.

The Guntersville plant will have a capacity of approximately 100,000 tons of feed a year. This capacity, officials of the cooperative said, can be increased considerably by adding additional storage space and equipment as provision for expansion has been included in the original plant.

Warehouse

A warehouse with 20,000 sq. ft. of floor space will be attached to the mill building. There will be rail docks, truck docks and barge docks, with a conveyor running from the plant to pick up grain from river barges which come out of the Tennessee Valley and down the Tennessee River. Two railroad spurs will serve the plant for shipping raw materials into the mill and finished feeds from the mill.

Four 120-ft. high grain storage tanks with a capacity of 200,000 bu. of grain will also adjoin the mill. This grain receiving and storage location will serve both the Guntersville and Flowery Branch mills for the bulk of their raw materials.

The plant will be owned entirely by Cotton Producers Assn. and will be operated under the name of Cooperative Mills. Cooperative Mills, Inc., is owned by five large regional farmers' cooperatives, including Cotton Producers Assn. Located at Cincinnati, it serves 13 southeastern states.

Both the Guntersville and Flowery Branch mills were designed by and are being constructed by Gulf States Construction, Inc., Atlanta.

Cotton Producers Assn., a regional marketing and purchasing organization with more than 120,000 farmer members, serves Georgia, Florida, Alabama and Tennessee.

The organization manufactures and purchases feeds, seeds, fertilizer and insecticides and miscellaneous farm supplies for its members and serves as a marketing agency for cotton, grains, poultry and other farm products. Marketing operations also extend to members in Texas, Arizona, Arkansas, Mississippi, Louisiana and other states.

GENERAL MILLS

(Continued from page 1)

The Jones-Hettelsater Construction Co. of Kansas City, Mo., has been awarded the contract for building the plant.

"This new facility," Mr. McVey said, "will enable us to further improve our service to our customers in the Texas area and to expand our business in this important livestock and poultry producing section of the country. It marks another significant step in the continuing growth of our feed operations."

In 1954, General Mills built an electronically-controlled feed plant at Belmond, Iowa, and is now completing a modern feed mill at Stockton, Cal. Recently, the company moved its expanding feed research operations from Detroit to a new, 1,100-acre farm near Indianola, Iowa. This is now the world's largest animal feed research farm operated by a commercial firm, the company said.

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
August 18	935	538	764	846	212	646	1,624	1,312
August 25	979	493	772	844	187	606	1,687	1,275
September 1	942	493	758	742	220	540	1,715	1,178
September 8	886	537	674	725	213	472	1,758	1,184
September 15	874	532	611	618	144	409	1,578	1,209
September 22	899	568	705	603	147	442	1,726	1,210
September 29	885	434	703	654	176	432	1,613	1,071
October 6	890	530	506	544	101	435	1,540	1,258
October 13	965	484	487	583	119	447	1,661	1,045
October 20	811	478	471	530	98	358	1,610	1,014

Week ending:	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
August 18	1,227	478	1,491	280	4,432	224	1,581	1,179
August 25	1,162	500	1,438	294	4,481	224	1,520	1,108
September 1	1,209	488	1,440	257	4,237	208	1,529	1,052
September 8	1,080	453	1,353	256	4,217	197	1,439	978
September 15	1,081	489	1,331	284	4,209	218	1,462	992
September 22	1,085	411	1,314	268	4,275	244	1,405	951
September 29	1,128	408	1,297	292	4,303	224	1,414	904
October 6	943	396	1,274	368	4,237	212	1,641	1,067
October 13	901	351	1,274	324	4,389	198	1,582	1,065
October 20	808	334	1,255	299	4,276	249	1,654	932

Week ending:	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1956	1955
August 18	2,115	281	1,976	222	153	1,023	23,539	19,429
August 25	2,150	377	1,875	193	144	1,067	23,376	18,349
September 1	1,996	312	1,885	187	142	1,097	22,627	17,652
September 8	1,798	260	1,766	207	116	1,017	21,586	17,605
September 15	1,642	251	1,814	188	146	928	21,005	17,659
September 22	1,729	251	1,835	228	131	771	21,198	17,708
September 29	1,986	271	1,861	215	136	898	21,504	17,998
October 6	1,792	252	1,996	178	134	899	21,193	18,176
October 13	1,798	310	2,006	132	136	773	21,030	18,288
October 20	1,714	284	1,826	142	90	729	19,962	18,596

IOWA

(Continued from page 6)

may be needed to determine the exact amount. It was noted that cattle need phosphorus to improve rumen function, and Arthur Raun, research associate, reported that a ration containing .25% phosphorus—with added phosphorus from dicalcium phosphate—boosted average daily gains of fattening steers nearly 15% and cut the feed cost of gain 8%.

Most present-day recommendations call for .18% phosphorus in cattle rations. That's all the cattle have been shown to need for bone growth. It's often supplied by natural feeds. The boost in gains in this experiment resulted when a supplement was fed containing 80 lb. of dicalcium phosphate per ton. It was fed at the rate of 1.2 lb. per steer daily.

The cattle getting the higher level of phosphorus gained an average of almost 3 lb. daily on the same ration that was producing less than 2½ lb. of gain per day for cattle getting the generally recommended phosphorus level.

The phosphorus added to the ration came from dicalcium phosphate, Mr. Raun noted. And, he said, in that form, it appears to be readily available to rumen microorganisms. He said it helps them, somehow, to digest feed more readily and rapidly.

Mr. Raun said he also tested soft phosphate with colloidal clay. From this experiment, he said, it appeared that addition of this source to a cattle fattening ration would be injurious to top feed lot performance rather than contributing helpful phosphorus in an available form useful to cattle.

Mr. Raun suggested that future recommendations for phosphorus levels should be based largely on feed lot performance, not alone on studies of needs for bone growth. The exact amount of phosphorus needed, he said, requires further investigation. However, he added, it appears that .25% phosphorus in a heavy corn ration is ample if the phosphorus is in a form highly available to rumen microorganisms.

The phosphorus requirement for good rumen function is higher than the phosphorus requirement for bone growth, it was pointed out.

Other Findings

Some of the research findings reported at the Cattle Feeders Day also are expected to affect recommendations feed men make in discussing cattle feeding with their customers.

Based on one test, it was indicated that hay or cobs increase gains for silage-fed cattle. Dr. W. H. Hale reported 4 lb. of ground corn cobs added to a full feed of grass silage increased gains and cut cost of gains for wintering steers in western Iowa. And the addition of 2 to 4 lb. of dry hay daily stimulated gains and reduced costs per pound of gain both with a full feed of grass silage and a full feed of drouth-corn silage.

Yearling steers gained about ½ lb. more per day where they were fed stilbestrol on a full feed of corn on brome-alfalfa pasture in western Iowa last summer, it was reported. However, stilbestrol on pasture had produced less stimulation the year before. Rodney Preston, research assistant, said the results indicate that 10 milligrams of stilbestrol per head daily on brome-alfalfa pasture has merit where no grain is fed. Where grain is fed on such pasture, sometimes there is no stimulation, while under certain corn-feeding systems on pasture it does appear to have merit.

Dr. Hale reported that beef calves wintered to gain about 1½ lb. per day in an experiment near Clarinda, Iowa, then fed on fresh chopped forage at the close of the winter season and finished in the fall on a full feed of corn, produced more beef at less total cost per pound of gain than calves wintered to gain only ½ lb. per day before going on the same summer and fall program.

"Quieting" Agent Tested

Thiouracil added to cattle fattening rations with Iowa Economy Supplement containing stilbestrol improved gains a little in an experiment at the beef nutrition farm at Ames, Dr. Burroughs reported.

He said there was no reduction in the cattle's appetite where stilbestrol was fed along with the thiouracil. The experiment is still under way and further conclusions will be made when the carcasses of the cattle have been evaluated.

The use of thiourea with thiouracil cut feed consumption and gains. Addition of thyroxin to the thiouracil resulted in about the same gains and rates of gain as thiouracil alone.

The theory behind the use of these drugs in cattle feed is that they reduce the activity of the thyroid gland. This makes the cattle quieter. Quiet cattle usually gain faster and more efficiently. However, in the past the drugs that reduced thyroid activity also reduced appetite. Since stilbestrol increases appetite, the experiment was designed to learn whether the increase in appetite resulting from stilbestrol would overcome the decrease resulting from the drugs that reduce the thyroid activity.

This combination evidently contributed to the slightly higher gains with thiouracil. Dr. Burroughs said the benefit was not large enough to justify the cost of mixing the drug in the feed, however.

In the same experiment, Dr. Burroughs reported, researchers tried feeding organic iodine to cattle in the hope that the iodine in the animal's blood stream might prevent foot rot. Results of this experiment were inconclusive, Dr. Burroughs said. Two cases of foot rot did occur in the lot of cattle receiving the organic iodine in their feed.

Medicated Starter

Dr. Burroughs reported that a test with a medicated starter supplement for feeder cattle failed to benefit cattle going on feed. He said the results suggest that for healthy cattle, essentially free from internal parasites, some medicated starter supplements either are without benefit or may be injurious to the animal's ability to gain weight.

He said a test comparing cholesterol with stilbestrol failed to stimulate gains or reduce feed costs as much as stilbestrol. A combination of stilbestrol and cholesterol did no better than stilbestrol alone.

MOLASSES

(Continued from page 7)

depleted by the end of this month. The 1957 crop production of the offshore producing countries will not be available in this country until late February or early March.

"Molasses people in the position to know are of the opinion that supplies will be adequate to care for the needs of the feed industry. There may be some minor inconveniences but on the whole you can expect to be able to receive a normal supply of molasses. The mainland cane molasses will begin to be available within the next several weeks and will supply about 40 million gallons. This, plus what limited stocks are on hand is expected to carry until the first of the year. In December the new crop Mexican molasses will provide some measure of relief. The production of domestic cane and beet refineries will be available each month to augment the supplies. This, plus the tonnage from the distant countries which we are informed will be brought to this country, will enable us to squeeze by with a minimum of difficulty."

Joins Jesse C. Stewart

PITTSBURGH—W. G. Saff, formerly with the Wilber Feed Co., Jamestown, N.Y., has become associated with the Jesse C. Stewart Co., Pittsburgh, and will be in charge of sales in western New York. He will make his headquarters at Jamestown.

$100,000 EXPANSION

TONGANOXIE, KANSAS — Work has begun here on a $100,000 expansion program for the J. M. Jack Elevator. The storage space will be increased 180,000 bu. by the addition of four tank-type bins. A new feed grinding and mixing plant also is being installed.

Millfeed Production Shows Decline

Production of millfeed in tons for week ending Oct. 19, and prior two weeks, together with season total of (1) principal mills in Nebraska, Kansas and Oklahoma and the cities of Kansas City and St. Joseph; (2) principal mills of Minnesota, Iowa, North and South Dakota and Montana, including Minneapolis, St. Paul and Duluth-Superior; (3) mills of Buffalo, N.Y. Production computed on the basis of 72% flour extraction.

	Southwest* Weekly production	Southwest* Crop year to date	Northwest* Weekly production	Northwest* Crop year to date	Buffalo† Weekly production	Buffalo† Crop year to date	Combined** Weekly production	Combined** Crop yr. to date
Oct. 15-19	28,273	415,271	14,170	224,837	11,096	176,801	‡3,539	816,909
Prev. week	‡27,663		‡15,161		11,909		‡54,733	
Two wks. ago	28,388		15,610		11,719		55,717	
1955	27,957	415,004	15,263	222,243	12,084	119,228	55,304	756,475
1954	24,534	398,199	14,240	317,581	12,111	166,307	50,885	881,987
1953	25,920	383,841	16,477	216,825	11,640	158,635	54,037	759,301
1952	25,380	400,976	16,526	242,474	9,131	154,385	51,036	797,835

*Principal mills. **74% of total capacity. †All mills. ‡Revised.

John J. Hill, Larvacide Representative, Dies

NEW YORK—John J. Hill died Oct. 20 at Rockville Center, L.I., after a short illness. He was 77 years of age.

Mr. Hill was sales representative for Larvacide Products, Inc., of New York and California, and had been with their predecessor company since 1928. His territory covered Long Island, Westchester County, northern New Jersey and the metropolitan area.

Before Mr. Hill joined Larvacide, he was chief engineer for the James Stewart Co., New York.

COLORADO FIRM ESTABLISHED

CANON CITY, COL.—The Simpson Feed & Grain Co. is a new business established here by Fred W. Simpson.

MARKETS

(Continued from page 2)

mills were being operated on full five-day schedules, with overtime operations being necessary at some plants. This was in sharp contrast to the previous week, when operations were at about the year's lowest level.

Current market prices for poultry and eggs apparently are having no adverse effect on the number of birds on valley farms, as sales of egg mashes and broiler feeds continue in good volume. Demand for turkey feeds is spotty but holding up well as growers finish off the fattening for upcoming holiday sales. But hog and dairy feeds continue moving out in small volume because of the availability of pastures not killed off by frosts earlier this month.

For the first time in several months feed producers expressed the belief this week that business now is heading into a period of expanding demand. With retail demands for meats and eggs at an all-time high, it is believed that there will be an increasingly active market for formula feeds during coming weeks.

Northeast

A lull hit the formula feed market this week. Sales were a little slow, and indications point to a continued reduced tempo next week.

Several factors fostered the slowdown. Among them was the void left by the increased marketing of turkeys, the continued price slump in the broiler market and the long spell of warm, sunny days which has hampered the demand for dairy feed. Because of these factors the trade doesn't look for any sudden upturn in tonnage.

Egg mashes did very well, but growing mashes are falling off. Broiler prices in the Buffalo area are down to 18@18½¢ lb. Eggs held steady.

Ingredient prices were irregular, with corn rebounding a little under lighter receipts and less liberal country offerings.

Running time for formula feed manufacturers averaged 40 hours last week.

Pacific Northwest

The formula feed business continued draggy, with heavy sales pressure in the field for all types of feeds, and with over-all volume leaving everyone wishing for more.

Feed formulators who have been relying for a good share of their business on broilers find that their volume is slipping rapidly, and they have gone after commercial laying flocks and dairy accounts. This has roughened-up competition all down the line, and field men report that conditions at the consumer level are about as competitive as they have ever seen them.

Manufacturers are running on short inventories because ample supplies of all types of ingredients are in sight. Grain and protein traders state that sales which once were based on

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hundreds of tons are now on a carlot basis, and sales which once were carlots have shrunk to truck lots.

Credits are bothering the trade all the way down the line, both at the consumer and at the dealer levels. It is pointed out that the close attention to credits which the whole trade is now undertaking will doubtless be beneficial in the long run, because it will tend to eliminate the weak and marginal operators, but it is giving all concerned a headache these days, particularly since in many cases accounts which have always been first class are simply unable to meet their bills.

Hay is about steady, millfeed has shown substantial strength primarily due to restricted flour grind, barley and oats are holding to loan levels or above and the proteins are without feature and are marking time. Pastures are still in fair shape but will be out of condition in another 30 days, and the main subject of conversation in feed circles is the low price of broilers and close attention to the price of turkeys.

Southeast

Feed demand in the Southeast is spotty. Poultry feed manufacturers are having steady running time, but mixers with a more general feed business are complaining that business is not good.

The broiler market has reacted from the recent extreme low price and is slightly improved. However, most reports maintain that producers are losing money. Chick placements are still relatively high, and there is nothing in the foreseeable future that would boost the price of broilers unless placements are reduced.

Either way, the poultry feed mixer will probably lose because lower markets will restrict feeding to a certain extent or a smaller number of birds will do likewise. The broiler market will probably go lower before it gets any better, observers say.

Georgia was declared commercial corn producing area this week by the U.S. Department of Agriculture, with 14 counties named directly. This probably means that corn will not sell at distressed prices as it has done in the past. Shelled corn is more profitable at present than ground snapped, and for this reason supplies of ground snapped material have been scarce. Movement is expected to get better as the season progresses.

Some of the citrus pulp processors in Florida are on a very limited production schedule for new crop pulp, but recent heavy rains in Florida further delayed fruit movement. This has also slowed truck deliveries of feed ingredients since northbound movements have not developed on schedule. The weather has been open and mild in the Southeast, and pastures are still available for grazing. Demand is expected to pick up when some of this pasture has been killed off.

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